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ABSTRACT

This report follows an extensive survey of primary care physicians (N=400) about the problem of substance abuse in women over the age of 59. Research has shown that an individual who reaches the age of 21 without smoking, using drugs, or abusing alcohol is virtually never at risk to abuse these substances. The only exception occurs with mature women, especially those who suffer the loss of a child or spouse, have financial difficulties, or experience loneliness. Only one percent of the physicians in this survey ever even considered a substance abuse diagnosis when presented with the typical early symptoms of alcohol and prescription drug abuse in these women. As gatekeepers of their care, physicians need to assume a key role in detecting early signs of trouble. There is strong evidence that brief physician interventions can improve medication compliance, improve smoking cessation rates, and reduce risky drinking. Medical schools and Continuing Education Programs need to provide physicians with the information about recognizing early signs of substance abuse. The problem can be directly addressed by training physicians who then in turn train their patients about the dangers and risks of alcohol and substance abuse. Suggestions are presented for policymakers and future research. (Contains 6 appendixes, 10 tables, and 538 references.) (JDM)

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Under the Rug:
Substance Abuse and The Mature Woman

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This report is dedicated to

Betty Ford

a founding member of the CASA Board of Directors
and a woman whose courage is an inspiration to women
throughout the world who suffer from substance abuse
and addiction.

Her continuing commitment in establishing the
Betty Ford Center and speaking out has helped
thousands of women and men reclaim their lives
from the ravages of substance abuse and addiction.

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GLOSSARY

Abuse and Addiction: Unless otherwise noted, these terms are used in accordance with criteria in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV). (Appendix A)

Adverse drug reactions are the unintended, negative side effects from appropriate use of prescription or over-the-counter drugs.

Analgesics are medications used to kill pain.

Anti-anxiety drugs are medications, such as diazepam and flurazepam, that reduce excessive levels of brain chemicals (serotonin and norepinephrine) that are associated with anxiety. They are often called tranquilizers. They may interact adversely with alcohol, and can be abused and addicting. Benzodiazepines are the major class of drugs used to treat anxiety.

Anti-psychotic drugs are medications that reduce or eliminate agitation and the symptoms of psychosis, such as hallucinations and paranoia. They do not create pleasurable effects and, as a rule, are not abused by patients.

Barbiturates are sedatives that are rarely used because they can be abused and addicting, and carry a higher risk of fatal overdose than benzodiazepines.

Benzodiazepines are the major class of drugs used to treat anxiety and insomnia. They depress the central nervous system, may interact adversely with alcohol, and can be abused and addicting. Depending on their dose, they can serve as anti-anxiety, sedatives or hypnotics. In low doses they are calming or mildly sedating; in higher doses, they are sleep-inducing.

Inappropriate use of prescription drugs is the overuse or use of them in combination with alcohol or other substances when this mix is dangerous. Inappropriate use can be either occasional ("misuse") or chronic ("abuse" or "addiction").

Inappropriate prescriptions may be inherently ineffective or unsafe for the patient; they may be prescribed in doses that are too high or for durations that are too long, and thus ineffective or unsafe; or they may interact dangerously with alcohol or other drugs that a patient is taking.

Misuse is the *occasional* overuse of medications or use of them in combination with alcohol or other substances when this mix is dangerous.

Narcotic analgesics, such as codeine and morphine, are painkillers in the opioid family. They are generally used when over-the-counter medications like acetaminophen and ibuprofen are ineffective. They may interact adversely with alcohol, and can be abused and addicting.

Overuse is taking medications in amounts or durations in excess of a physician's recommendations.

Psychoactive drugs are medications that alter mood by affecting the central nervous system. Some of them can be abused and addicting.

Risky or heavy drinking is drinking alcohol in amounts greater than the limits recommended by the National Institute on Alcohol Abuse and Addiction. For women of any age, this is having more than one drink a day.

Sedatives or hypnotics are medications used to treat insomnia and other sleep disorders. They may interact adversely with alcohol, and can be abused and addicting. The benzodiazepines are often used to achieve sleep through sedation.

Selective Serotonin Reuptake Inhibitors (SSRIs) are anti-depressant drugs, such as fluoxetine, that keep more of a brain chemical associated with mood (serotonin) active in the brain. They are not sedating and do not interact adversely with alcohol.

Tricyclic anti-depressants are drugs, such as amitriptyline, that keep more brain chemicals associated with mood (nor-epinephrine, dopamine and serotonin) active in the brain. Some of these drugs are sedating, may interact adversely with alcohol and can be abused.

Foreword and Accompanying Statement By Joseph A. Califano, Jr. Chairman and President

This report, *Under the Rug: Substance Abuse and The Mature Woman*, is the result of two years of intensive research, extensive analysis of available data and a unique survey of primary care physicians on the substance abuse problems of women over age 59.

This unprecedented effort was funded by the Bristol-Myers Squibb Foundation, an example of corporate citizenship that deserves special recognition. When deciding to support this study, the Foundation recognized that among the likeliest problem areas for mature women was abuse of psychoactive prescription drugs. The Foundation provided us the funds, told us to tell it as we saw it and exercised no editorial control.

By and large, five years of research at The National Center on Addiction and Substance Abuse at Columbia University (CASA) has shown that an individual who reaches age 21 without smoking, using drugs or abusing alcohol is virtually certain never to do so. Mature women--especially those who suffer the loss of a spouse or child, financial difficulties or loneliness--are the most troubling, touching and hidden exception to this axiom.

This report reveals that of the 25.6 million women over 59 in the United States, 4.4 million (17 percent) are addicted to nicotine, some 1.8 million (seven percent) abuse alcohol; and about 2.8 million (11 percent) abuse psychoactive drugs. Mature women are more likely to be hospitalized for substance abuse-related problems than for heart attacks. The substance abuse-related ailments and accidents they suffer will result in some $30 billion in health care bills in 1998 and on our present course, will top $100 billion a year in 20 years. Premature death from smoking and abuse of alcohol and psychoactive prescription drugs robs mature women of at least

15 million years of life and millions of years more of independent living.

By any standard of public health measurement, substance abuse and addiction has reached epidemic levels for American women over age 59. The rate of Medicare admissions of mature women for ailments or injuries caused by substance abuse is more than triple their rate of admissions for non-substance abuse-related heart attacks. The rate of Medicaid admissions of mature women for such ailments or injuries is more then four times their rate of admissions for non-substance abuse-related heart attacks. At least 200,000 women in nursing homes have alcohol problems.

But unlike outbreaks of AIDS, measles or food poisoning, which affect far fewer individuals, the substance abuse epidemic among mature women is hidden, swept under a rug of shame and denial, buried in the dust of other medical diagnoses. Just as Little Red Riding Hood saw the big ears, eyes and nose but didn't put it all together to spot the wolf, so many of us--physicians, families and friends--notice the individual symptoms such as depression, memory loss, irritability, stomach upset and trouble sleeping, but can't believe that grandma is abusing alcohol or psychoactive drugs.

The substance abuse and addiction of mature women is hidden in the shame, embarrassment and denial of those who struggle with it. It is swept under the rug of denial and desperation of families and friends who can't accept the reality that mother or a dear aunt may be abusing alcohol or addicted to it or who simply don't know what to do about it. It gets lost in the shadows because so many physicians fail to identify substance abuse or addiction in their mature female patients--and some physicians who do ignore it because they don't believe anything can or should be done. It is hidden in the diseases and injuries it spawns--cancer, heart attacks, diabetes, hypertension, strokes, pneumonia, kidney failure, asthma, bronchitis and hip fractures. We're great at identifying and treating those diseases and injuries, while we ignore the underlying substance abuse and addiction that causes them. This report finds that of $10 billion in acute care hospital charges resulting from substance abuse and addiction in mature women, 98.0 percent ($9.8 billion) is spent to treat the illnesses and injuries that are the consequence of the abuse and addiction. Only 2.0 percent ($205 million) is spent to treat substance abuse and addiction.

Of the doctors that CASA surveyed, less than one percent identified a classic profile of an alcoholic mature women as having an alcohol problem. Few caregivers, families and friends are able to spot the symptoms of substance abuse and addiction; even fewer know what to do when they spot those symptoms. Shame and denial run especially high among women over 59, which lead them to hide their problems and family and friends to overlook them.

Some physicians and caregivers, and family and friends, are deaf to the sounds of trouble. Others wink at those symptoms or feel that there is nothing they can or should do as mature women --parents, sisters, mothers, grandmothers--slip into abuse of substances and addiction to them. How often have we said, "Oh, there's no point in trying to get mother to quit smoking; she's too old." Or, "Let grandmother get tipsy at night. She's lonely and has so few pleasures. And she's over 60." Or, "Maybe she's taking too many tranquilizers, but it seems to make her feel better and she's easier to get along with." Or, "At that age, what difference does it make if she has a couple of drinks even though she's taking sleeping pills."

Well, it can make a big difference. The life expectancy of a woman who lives to age 60 is 83 and climbing. By ignoring the substance abuse of mature women, we compromise the quality of these years or we condemn these women to early death or disability from a broken hip, emphysema, a heart attack or lung cancer, or an inadvertent overdose of sleeping pills taken after having a few drinks too many. We leave millions of grandchildren without grandmothers, and children without mothers. We saddle others with the avoidable burden of caring for an ailing parent.

The mature woman is often trapped on a treacherous spiral staircase of stress, alcohol abuse, depression and psychoactive drug abuse. Stressful events, health problems, money worries and social isolation can trigger episodes of depression, which can lead to alcohol abuse and alcoholism. Alcohol abuse exacerbates the depression, which in turn can lead to psychoactive drug abuse, further aggravating the depression and alcohol abuse.

The destructive relationship between depression and alcohol abuse is particularly strong among women. At any age, alcoholic females are twice as likely as non-alcoholic females to be depressed and almost four times likelier than male alcoholics to be depressed.

The consequences of substance abuse and addiction come fast and furious for mature women. Women of any age develop alcohol-related illness more quickly than do men, and mature women are most vulnerable to the effects of alcohol. The sensitivity of women to some psychoactive prescription drugs and the reduced tolerance that mature women experience may combine to create more rapid and severe consequences of psychoactive drug abuse for mature women as well. And while women who smoke like men die like men who smoke, recent research suggests that women are even more vulnerable than men to smoking-related lung cancer.

Few mature adults use illicit drugs. Only 3.8 percent of mature women (7.6 percent of mature men) say they have even tried illegal drugs; none report current use. CASA's survey of physicians found that on average, only two percent of their mature female patients have problems with illicit drug use. Although these numbers may grow as the Baby Boomers age, for now the substance abuse problems of mature women stem largely from alcohol, psychoactive prescription drugs and cigarettes.

Used in moderation, women can enjoy alcohol. Appropriately prescribed and used as the physician directs, psychoactive pharmaceuticals offer enormous benefits to mature women suffering from depression, mood swings and sleeping problems. This report seeks to bring out of the closet of shame and denial the abuse of these substances and increase awareness of the benefits of ending the abuse or quitting smoking.

The most troubling aspect of the situation exposed in this report is that for millions of mature women, the problem of substance abuse and addiction can be prevented and, where necessary, treated. Yet we lose thousands of opportunities every day to do that. Of the 1.8 million mature women who might benefit from treatment for alcohol abuse, only about 11,000, less than one percent, receive it.

Our survey of physicians who serve a significant number of mature female patients reveals that less than one percent are looking for substance abuse and addiction. Yet brief physician intervention--for as little as five minutes--can help convince mature women to quit smoking and stop abusing alcohol or psychoactive prescription drugs.

Health maintenance organizations and insurers refuse to pay physicians to talk to patients. Indeed, one of the most disturbing aspects of this report is this: one-fifth (20 percent) of physicians who identify mature women as substance abusers say that a managed care organization or insurance company refused to cover the costs of their referrals for counseling or treatment.

While many mature women and their families may believe that there is no point in quitting smoking so late in life, they are wrong. Quitting after age 59 produces significant health improvements, avoids illness, improves quality of life and adds years of independent living.

The nation would be wise to heed the clarion call of this report because this problem is going to explode within 20 years. Today there are 25 million mature women in America. In 20 years, thanks to the Baby Boomer generation and increasing life expectancy, there will be 40 million mature women. At current rates, 2.8 million of them will need treatment for alcohol abuse, 3.4 million will suffer serious illness and die prematurely due to cigarette smoking, and some 4.4 million will abuse psychoactive drugs

or be addicted to them. The human tragedies this entails are incalculable. The health care costs will top $100 billion a year.

With the sensible recommendations in this report--for timely investments in research, training of physicians, changes in reimbursement policies, common sense patient attitudes and caring candor among families and friends--we can avoid most of those tragedies and costs. This is not a situation where we do not know what to do. It is one where the choice is ours to make and the question is whether we have the guts, willpower and wisdom to make the right choice.

CASA's belief that physicians play a key role in battling substance abuse and addiction is leading us to do further work in this area. With a grant from the Josiah Macy, Jr. Foundation, we have begun a comprehensive survey of primary care physicians regarding their substance abuse screening, counseling and diagnostic practices with patients of any age and sex.

Several individuals worked hard to produce this report. Jeanne Reid, one of CASA's outstanding Senior Research Associates, led the effort with brilliance and meticulous care. She was helped by Barbara Kurzweil and Isadora Gil, Research Assistants; Harry Liu, Ph.D., Data Manager; David Man, Ph.D., CASA's Librarian and Information Specialist; and Susan Foster, Vice President and Director for Policy Research and Analysis. Katherine Binns, Senior Vice President at Louis Harris & Associates, worked with her on the physician survey. Herbert Kleber, M.D., CASA's Executive Vice President and Medical Director; Alyse Booth, Vice President and Director of Communications; Patrick Johnson, Ph.D., Deputy Director of Medical Research and I reviewed drafts of the report. Jane Carlson handled the administrative chores.

Express Scripts®, a pharmacy benefit management firm based in St. Louis, Missouri, merits our commendation for its willingness to examine its own customer data and release its findings in order to shed light on the extent of inappropriate psychoactive drug prescribing among mature women.

We also greatly appreciate the help of the talented professionals from outside CASA who made up our advisory board. These dedicated individuals provided invaluable guidance in setting the course of study and reviewing the report.

This is the second CASA undertaking that the Bristol-Myers Squibb Foundation has funded. The first was our study, *Substance Abuse and The American Woman*, which we released in June 1996. The Foundation's support of both studies reflects the special interest of Bristol-Myers Squibb in the health of American women.

I. Introduction and Executive Summary

This report is the first comprehensive analysis of substance abuse and addiction involving alcohol, prescription drugs and tobacco among the 25.6 million mature American women--those age 60 and older.[1] A 60 year-old woman in America today can expect to live at least into her eighties with a quality of life that has increased dramatically in recent decades.[2] Yet millions of these women suffer from substance abuse and addiction that robs them of their health, independence and life, and triggers some $30 billion in Medicare, Medicaid and private health care charges a year. Because of the rising number of mature women, the health care costs of the failure to face up to this problem will top $100 billion in the next 20 years.[3]

The substance abuse and addiction of mature women is hidden in dark corners of shame and embarrassment of women who struggle with it; in the shadows of denial or desperation of loved ones who don't know where to turn; and behind the failure of physicians to recognize and treat the condition.

The impact of substance abuse among mature women can be calculated in terms of illness, injury, disability, hospital and physician visits, nursing home stays, Medicare, Medicaid and private insurance bills. Harder to measure are the human tragedies, the impact on husbands who lose their spouses, children who lose their mothers, grandchildren who lose their grandmothers, and the women themselves who lose their mental acuity, physical functions, ability to live independently and ultimately their lives in a premature disability and death that are preventable.

As part of this two year analysis, CASA conducted a unique survey of 400 primary care physicians at least 10 percent of whose patients were women over 59. The 400 physicians in the survey were a nationally representative sample of

the 250,000 physicians nationwide who provide primary health care to some 19.7 million mature female patients, 77.7 percent of all mature women.[4] CASA sought to probe these physicians' understanding of substance abuse among such women, whether physicians screen for the problem and if not, why not.* CASA also analyzed underlying data from the 1995 National Household Survey on Drug Abuse (NHSDA) of the Substance Abuse and Mental Health Services Administration and the 1995 Health and Retirement Study (HRS) of the National Institute on Aging, both of which contain information on substance use and abuse among adults over 59.† In addition, CASA reviewed 670 technical articles, books and reports covering medical and social science literature on substance abuse, aging and gender.

The most alarming finding of the CASA physician survey is that hardly any primary care physicians--one percent of the sample--even consider a substance abuse diagnosis when presented with the typical early symptoms of alcohol and prescription drug abuse in a mature woman. For most physicians--as well as for family, friends, co-workers and other caregivers --substance abuse among mature women is not even on the radar screen.

Instead, physicians are likely to consider the diagnosis of depression for the substance abusing mature women, which might lead to prescriptions of sedating psychoactive drugs.‡ The high level of recognition by physicians of symptoms that could indicate depression is commendable. But the jagged edge of this diagnostic sword can be devastating when the physician fails to spot the alcohol abuse and prescribes sedating psychoactive drugs that can aggravate the substance abuse of the depressed patient and threaten the patient's life. A higher level of physician awareness regarding substance abuse and addiction is urgently needed both to treat the condition and to prevent inadvertent harm.

With physicians, family friends and other caregivers either looking the wrong way--or the other way--the substance abuse problems of the mature woman will get worse and can become life-threatening. Until our nation makes a strong commitment to effective prevention and treatment strategies, this chronic disease will remain in hiding and the tragic consequences and costs will mount.

The Greater Susceptibility of Mature Women

Women over 59 experience problems related to alcohol and psychoactive prescription drugs and get addicted faster, and when using smaller amounts, than any other group of adults because:

- Tolerance for alcohol and prescription drugs falls with age;[5] and
- Women of any age are more vulnerable to the effects of alcohol, and preliminary evidence suggests, to the effects of some psychoactive prescription drugs than are men.[6]

What constitutes safe and moderate drinking or psychoactive prescription drug use for a woman in her 30s and 40s can be dangerous in her 60s and 70s. The mature female alcoholic is likely to drink less than alcoholics of any other age or sex. Dependence on psychoactive prescriptions can sneak up with frightening stealth and speed, taking hold without any apparent abuse of the medication.

Mature women are also susceptible to abuse and addiction because they are more likely than any other adults to use psychoactive drugs (particularly sedatives and hypnotics), to be long-term users and to abuse them in combination with alcohol, which can hasten the onset of dependence.[7]

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* The CASA survey has a margin of error of +/- three to five percent. The questionnaire and a description of the methodology for the survey appear in Appendices B and C.

† A description of these databases appears in Appendix D.

‡ Psychoactive drugs are medications that alter moods by affecting the central nervous system. Some of them can be abused and addicting.

Some physicians are too quick to prescribe psychoactive drugs for mature women.[8] Even after accounting for factors such as diagnosis, physician specialty and payment source, women who visit a physician are 37 percent likelier to receive a prescription for a tranquilizer and 33 percent likelier to get a prescription for an anti-depressant than men who visit a physician.[9]

Common Psychoactive Drug Prescriptions for Mature Women

- ***Anti-anxiety drugs*** *are medications, such as diazepam and flurazepam, that reduce excessive levels of brain chemicals (serotonin and norepinephrine) that are associated with anxiety. They are often called tranquilizers. They may interact adversely with alcohol, and can be abused and addicting. Benzodiazepines are the major class of drugs used to treat anxiety.*
- ***Sedatives or hypnotics*** *are medications used to treat insomnia and other sleep disorders. They may interact adversely with alcohol, and can be abused and addicting. The benzodiazepines are often used to achieve sleep through sedation.*
- ***Tricyclic anti-depressants*** *are medications, such as amitriptyline, that act to keep more brain chemicals associated with mood (norepinephrine, dopamine and serotonin) active in the brain. Some of these drugs are sedating, may interact adversely with alcohol and can be abused.*
- ***Narcotic analgesics****, such as codeine and morphine, are painkillers in the opioid family. They are generally used when over-the-counter medications like acetaminophen and ibuprofen are ineffective. They may interact adversely with alcohol, and can be abused and addicting.*

Characteristics of Mature Females Who Drink, Use Psychoactive Prescription Drugs and Smoke

The role of race, ethnicity and income in the development of substance abuse and addiction is not clear. But use of alcohol and psychoactive prescription drugs are most common among mature women who are white and affluent.[10]

More than one out of four mature white women (26.7 percent) are current drinkers, compared to one out of six mature African American women (17.5 percent) and Hispanic women (17.2 percent).[*] [†] [11] But mature white and black women are equally likely to drink *heavily* (10.9 percent vs. 10.3 percent);[12] and both of these groups are more likely to drink heavily than mature Hispanic women (6.9 percent).[‡] [§] [13]

Drinking is most common among mature women with higher incomes. Mature women in families with incomes of at least $40,000 are twice as likely to drink as those in families with incomes below $40,000 (43.6 percent vs. 21.8 percent).[14] Mature women with higher incomes are also more likely to drink heavily; those with incomes of at least $40,000 are almost three times likelier to drink heavily than are mature women with incomes below $40,000 (22.8 percent vs. 8.2 percent).[15]

Use of psychoactive prescription drugs is most common among women who are white and those who have higher incomes.[16] CASA's analysis finds, for example, that adult women in

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[*] Current drinkers have had at least one drink during the past month.

[†] Although small sample size makes it impossible to conclude that these rates are statistically significant, these findings are consistent with data from younger age groups indicating higher drinking rates among white women.

[‡] "Heavy drinking" refers to drinking above the limit recommended by the NIAAA of one drink per day for women.

[§] Although the lower heavy drinking rate among Hispanic women is not statistically significant, other research has also found heavy drinking to be lower among mature Hispanic women.

households with incomes of $75,000 or more are 44 percent more likely to report use of psychoactive prescription drugs in the past year than are adult women in households with incomes below $15,000 (12.5 percent vs. 8.7 percent).* [17]

Race and ethnicity may play a role in whether mature women smoke. White mature women are more likely than black or Hispanic mature women to smoke (18.4 percent vs. 13.0 percent vs. 9.2 percent).† [18] Smoking rates after age 59 may also vary by income level. Mature women with household incomes of at least $40,000 are almost twice as likely to smoke as those with incomes below $40,000 (27.6 percent vs. 15.4 percent).‡ [19]

Risk Factors for Alcohol and Prescription Drug Abuse and Smoking

Substance abuse and addiction among mature women has many faces: women may abuse alcohol, abuse psychoactive prescription drugs and smoke cigarettes. Use of illicit drugs is very rare among mature adults.[20] This may change as Baby Boomers, who have grown up in era of wider experimentation with illicit drugs, reach age 60.[21]

Different types of substance abuse and cigarette smoking often coincide, stemming from common risk factors and affecting the brain in similar ways.[22] The factors that contribute to each problem include traumatic personal losses and financial crises that can cause stress and depression, a rising incidence of medical and sometimes chronically painful illness, which can also contribute to depression, and greater social isolation. Each of these factors is most common among mature women and together they predispose women to "late onset" alcohol problems and the prescription drug abuse that often accompanies such problems.[23] While poor health motivates many cigarette smokers to quit, the depression that often accompanies life changes and serious illness discourages many women from doing so.[24]

Alcohol Abuse

One out of four mature women (25.2 percent, or 6.4 million women) are current drinkers.[25] CASA's analysis reveals that one in 10 mature women (10.5 percent, or 2.7 million) drink more than the limit of one drink per day recommended by the National Institute on Alcohol Abuse and Alcoholism (NIAAA).[26] A significant percentage of these women may already be experiencing trouble. In the CASA survey, primary care physicians suspect that, on average, one in 14 of their mature female patients (seven percent) is abusing alcohol.[27]

Because most mature women visit primary care physicians, this provides a good map of the problem in the general population. Applying this rate to the general population indicates that one in 14 mature women (seven percent), or 1.8 million out of the 2.7 million mature women who drink heavily--may be abusing alcohol or dependent on it. This likely underestimates the extent of abuse and dependence because physicians fail to recognize many cases of substance abuse and addiction.[28]

The common early symptoms of alcoholism are depression, irritability, stomach upset, malnutrition, weight loss, memory loss, self-neglect, insomnia and frequent accidents.[29] As alcoholism progresses, the mature adult may suffer gastrointestinal problems, incontinence, liver, kidney and heart disease, and pancreatitis, cancer, and a host of other health problems including an impaired immune system that can leave her vulnerable to infections such as pneumonia and tuberculosis.[30]

At any age, female alcoholics are up to twice as likely to die as male alcoholics in the same age group (who in turn die at rates three times above

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* Adult women are over age 18. Small sample size makes it impossible to conclude that this difference is statistically significant and to examine income solely among mature women.

† Small sample size makes it impossible to determine that these differences are statistically significant.

‡ Small sample size makes it impossible to determine that this difference is statistically significant.

the general population), and a greater percentage of alcoholic women than men die from alcohol-related accidents, violence and suicide.[31] On average, alcoholism cuts 15 years off the lives of female alcoholics.[32] For others, alcohol abuse and addiction robs them of their ability to live independently; at least 200,000 mature women who live in nursing homes have current or past alcohol problems.[33]

Psychoactive Drug Abuse and Addiction

Very limited data exist on the prevalence of use, abuse or addiction to psychoactive drugs. Overall, adults over 59 take an average of 19.4 prescriptions a year.[34] In the CASA survey, physicians report that women over 59 take an average of five prescription drugs *at the same time*. One in four mature women (6.4 million mature women) are using at least one psychoactive prescription drug.[35]

Inappropriate prescribing is common and can contribute to abuse and addiction. One out of six Medicare beneficiaries (17.5 percent, 3.5 million mature women) receives at least one inappropriate prescription.* [36] At least one in five nursing home residents (20 percent, 200,000 mature women) receives an inappropriate prescription.[37] In board and care facilities, an alternative to nursing homes, one in four residents (25 percent, roughly 100,000 mature women) gets at least one inappropriate prescription.[38] Women are more likely than men to receive inappropriate prescriptions, and psychoactive drugs are among the most common culprits.[39]

Benzodiazepines which, depending on their dose, are medications that act as tranquilizers, sedatives or sleeping pills, and sedating anti-depressants--both of which can be abused and addicting--are among the medications most often inappropriately prescribed for older women.[40]

The number of prescriptions for benzodiazepines, soared from about one million in 1970 to 52 million in 1990.[41] While their use has declined slightly in recent years, they remain the typical prescription for anxiety and insomnia, and a leading prescription for mature women.[42]

> ***Inappropriate use*** *of prescription drugs is the overuse or use of medications in combination with alcohol or other substances when this mix is dangerous. Inappropriate use can be either occasional (**"misuse"**) or chronic (**"abuse"** or **"addiction"**).*

Misuse of medications, whether overuse or use in combination with alcohol when this mix is dangerous, also puts mature women at risk of abuse or addiction. About half of adults over 59 do not comply with doctor's orders regarding prescription drugs and women are less likely than men to comply.[43] Most of this non-compliance is believed to involve underuse, although research has not determined the extent of overuse or dangerous use with alcohol.

CASA's physician survey found that one in nine mature women--11 percent, or 2.8 million--may be experiencing problems with psychoactive prescription drug abuse.[44]

Misuse and abuse of psychoactive prescription drugs, and most commonly of benzodiazepines, cause unwanted drowsiness, sedation, confusion and memory loss.[45] Abuse of psychoactive drugs triggers symptoms that mimic the underlying disorder that prompted the initial diagnosis: anxiety, depression and insomnia.[46] If the problem goes untreated, the depression will worsen and suicide attempts may result. Dependence on psychoactive drugs can lead to severe withdrawal symptoms in the mature adult: confusion, shaking, stomach and muscle cramps and trouble sleeping.[47]

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* Prescriptions can be inappropriate for one of several reasons: They may be inherently ineffective or unsafe for the patient; they may be prescribed in doses that are too high or for durations that are too long, and thus ineffective or unsafe; or they may interact dangerously with alcohol or other drugs that a patient is taking.

Inappropriate prescriptions of psychoactive drugs can cause trouble even for mature women who do not misuse or abuse them. After accounting for alcohol use, use of anti-anxiety drugs, sedatives (particularly long-acting benzodiazepines) and sedating antidepressants doubles the risk of falls and fractures among the elderly.[48] Psychoactive drug use indirectly causes up to 14 percent of all hip fractures among mature adults--some 30,000 hip fractures a year.[49] Use of sedating anti-depressants more than doubles a mature adult's chance of having a car crash--even after controlling for alcohol use.[50] Use of benzodiazepines increases the risk of a car accident by 50 percent.[51]

The Problem Prescriptions

Appropriately prescribed and used, psychoactive pharmaceuticals offer enormous benefits to mature women suffering from pain and depression or other mental disorders. But inappropriate prescriptions and use can lead to trouble. When CASA asked physicians what types of prescription medications cause the greatest problems for mature women, the top two choices were psychoactive drugs commonly taken by mature women for mood disorders (such as anxiety or depression) or pain: 68 percent of physicians cited anti-anxiety, sedative or hypnotic and anti-depressant medications, and 64 percent said analgesics, non-steroid anti-inflammatory medicines and narcotics. Half of the physicians who cited anxiety or mood disorder medications specifically named the benzodiazepines. When asked about over-the-counter (OTC) medicines, pain medicines were the top source of trouble for mature women. Overuse or use with alcohol are the usual causes of problems with these prescription and OTC drugs, with the exception of anti-depressants which are frequently under-used.[52]

Women Likelier Than Men to Abuse Alcohol and Psychoactive Prescription Drugs Together

Because alcohol is a depressant when used in anything beyond small amounts, it magnifies the effects of tranquilizing or sedating medications.[53] Alcohol also accelerates dependence on these drugs.[54] The result is that mature women who abuse alcohol and these psychoactive prescription drugs at the same time are likely to suffer severe health consequences in an aging body that is least able to recover.[55]

Drowsiness, confusion and delirium from sedatives, fainting after the use of tranquilizers, sedatives or sedating antidepressants--all are examples of the consequences of combining psychoactive prescription drugs with alcohol.[56] Because both alcohol and the benzodiazepines depress the central nervous system, together they can cause heavy sedation, confusion and falls or other accidents.[57] Use of narcotic painkillers, such as morphine or codeine, is particularly dangerous when drinking.[58] Alcohol can boost the strong sedating effect of narcotics to the point of stupor and even unconsciousness.[59]

Smoking

Although smoking rates have declined in the adult population since the 1960s, the rate among mature women has barely changed.[60] While almost a third of women ages 18 to 59 smoke (30.7 percent), one out of six mature women 17.3 percent, or 4.4 million women) smoke.[61] About one out of nine mature women (11.1 percent, or 2.8 million women) smoke at least a pack a day.[62] Smoking rates are lowest among mature adults, both female and male, because some have managed to quit and others have died from tobacco-related illness.[63]

Because the first generation of women to have smoked heavily began reaching age 60 in the last two decades, the full ugliness of nicotine addiction is only now showing itself.[64] Lung cancer rates for women have been rising since the mid-1950s and in 1986, lung cancer jumped over breast cancer as the leading cause of cancer death among women.[65] While most of the evidence indicates that women who smoke like men die like men who smoke, women appear to be even *more* vulnerable than men to smoking-related lung cancer.[66]

The number one killer of women after age 60 is heart disease and smoking is a leading preventable cause of cardiovascular problems.[67] Since 1983, heart disease has killed more women than men each year (478,179 vs. 447,900 in 1991), and smoking accounts for 13 percent of these deaths.[68] Smoking increases a women's risk of osteoporosis[69] and contributes to macular degeneration, the leading cause of blindness among the elderly in the U.S.[70]

Even after age 59, quitting is worth it. Mortality rates decline if adults quit smoking at or after age 60.[71] Quitting smoking at or after ago 60 can reduce--though not eliminate--the smoking-related risk of getting cancer and having a heart attack because of smoking-related heart disease.[72] Mature smokers can cut their risk of having a stroke by kicking the habit and thus increase their years of independent living.[73]

The Cost of Substance Abuse and Addiction Among Mature Women

CASA's analysis reveals that substance abuse and addiction among mature women will trigger at least $22.3 billion in Medicare, Medicaid and privately paid hospital and nursing home bills in 1998.*

$10.1 billion will stem from inpatient hospital charges (8.2 percent of all inpatient hospital charges for mature women):

- Medicare: $8.5 billion;
- Medicaid: $338 million;
- Private insurers and individuals: $1.3 billion.

$12.2 billion will stem from nursing home expenses (20 percent of all nursing home expenses for mature women):

- Medicare: $1.4 billion;
- Medicaid: $5.8 billion;
- Private insurers and individuals: $5.0 billion.

* A description of the methodology for the cost analysis appears in Appendix E.

The hidden nature of the problem is reflected in the small number of charges for treatment of a diagnosed substance abuse problem. By far, Medicare spends most of its money to treat the consequences of substance abuse such as cancer, heart disease and hip fractures, rather than to address the underlying disorder. In acute care hospitals, 98.0 percent ($9.8 billion) is spent to treat the consequences of substance abuse--often without any recognition of the underlying substance abuse disorder; only 2.0 percent is spent to treat the substance abuse problem itself ($205 million).

The $22.3 billion does not include the costs of outpatient hospital visits, physician office visits and home health care for mature women as a result of substance abuse. Epidemiological research is needed to identify these costs precisely. Taking the ratio of mature women's substance abuse related hospital inpatient bills to all hospital inpatient bills regardless of age or sex, and applying it to all spending on physician services and home health care, CASA estimates that the cost of such services and care adds roughly $7.7 billion, bringing the total health care cost of substance abuse among mature women to some $30 billion.[74]

Even this $30 billion estimate is low since CASA's analysis relies to a great extent on the accuracy of physician diagnoses. CASA's survey and several studies find that physicians fail to recognize many cases of substance abuse disorders.[75]

These costs will rise dramatically as Baby Boomers reach age 60. At current rates of use and abuse, the annual health care cost of substance abuse among mature women will top $100 billion in 20 years.[76]

Medicare and Medicaid Hospital Admissions of Mature Women Due to Substance Abuse

Of all Medicare hospital admissions for mature women, 8.3 percent are attributable to substance abuse. This rate is more than triple the 2.4 percent rate of Medicare admissions for non-

substance abuse-related heart attacks among mature women.

The difference is even sharper for Medicaid admissions. Of all Medicaid hospital admissions for mature women, 9.1 percent are attributable to substance abuse, more than four times the 2.1 percent rate of Medicaid admissions for non-substance abuse-related heart attacks among mature women.

The Cost and Benefits of Treatment

An investment in treatment can be very cost effective. The average charge for a hospital stay by a mature women with a substance abuse-related problem is $15,700.[77] The average cost of treating the substance abuse would be about $1,800.[78] If just one out of eight treatment attempts works well enough to prevent a single substance abuse-related inpatient hospital stay, then the treatment has paid for itself. And this does not even account for the human benefits in terms of women who have reclaimed their lives and families that have regained their grandmothers, mothers and wives.

Physicians: Who's Looking for the Early Signs of Substance Abuse?

To compare the training and practice settings of physicians who routinely screen for alcohol problems and those who do not, CASA asked 400 physicians to name the top five possible diagnoses for a hypothetical case of a patient with an array of complaints: loss of energy, weight loss, irritability, chronic heartburn and trouble sleeping--all typical early indicators of alcoholism and sometimes of prescription drug abuse.[79] For a third of the doctors, the patient was a 68 year-old woman; for another third, she was a 33-year-old woman; and for a final third, the patient was a 68 year-old man.[80]

The startling result was that overall only two percent of all physicians (nine) even considered substance abuse or addiction as a leading diagnosis for any type of patient. In the case of the 68-year-old woman, only one percent of doctors (two out of 149) even considered substance abuse as a likely diagnosis.

Apparently in its place, most physicians suggested depression. Four out of five (82 percent) named depression for the 68-year old woman, making it the leading diagnosis. A significant number (20 percent) suggested anxiety, stress or psychological problems other than depression. These are not unreasonable diagnoses since some of the symptoms could indicate depression or anxiety disorders.

The good news is that physicians are looking for signs of depression among their mature female patients and may initiate effective treatment for them. The bad news is that so few physicians consider substance abuse. Some of the drugs they frequently prescribe for depression or anxiety--tranquilizers, sedatives and sedating anti-depressants--when taken by a patient who is abusing or dependent on alcohol, are sure to complicate and exacerbate the addiction.[81] Indeed, physician failure to spot their addicted patients could condemn them to more severe and destructive levels of addiction and to premature disability and death.

Barriers to Proper Diagnosis and Treatment

In the CASA survey, physicians cite lack of time, patients' feelings of denial, physicians' lack of knowledge, and both patients' and physicians' discomfort discussing the problem as the biggest barriers to effective screening for substance abuse in their daily practice. Together, these responses point to two challenges that must be addressed to improve physician practice: 1) lack of time and 2) the need for training to improve knowledge, communication skills and attitudes about substance abuse.

Other barriers deter efforts to get mature women into treatment. The CASA survey found that, of physicians who have tried to refer mature adult patients to substance abuse counseling or treatment, one-fifth (20 percent) say that a managed care organization or insurance company refused to cover the costs of the referral.

Moreover, Medicare covers inpatient treatment for substance abuse only when it is provided in a hospital setting, which in many cases amounts solely to detoxification.[82] Medicare covers only 50 percent of the costs of most types of outpatient psychiatric treatment.[83]

The CASA survey revealed an important gap in physician knowledge: physicians do not take into account the facts that tolerance for alcohol falls with age and that women on average have a lower tolerance for alcohol than do men. The average number of drinks per day that physicians said would constitute problem drinking were virtually equal for patients who are women age 60 and over (2.3 drinks), men age 60 and over (2.4 drinks), women age 40 to 60 (2.4 drinks) and men age 40 to 60 (2.5 drinks). These physician judgments are much likelier to guide the conduct of mature women than the one-drink-a-day limit recommended by the NIAAA.

Attitudes thwart detection as well. In the CASA survey, more than one third of physicians agreed with the statement, "Many physicians fail to address problem drinking among mature patients because they believe drinking is one of the last few pleasures left for the elderly." This belief encourages them to overlook or wink at early signs of trouble.

Physicians also express little confidence in treatment. The CASA survey found that while physicians overwhelmingly believe mature adults will benefit significantly from stopping problem drinking or smoking, they are less sanguine about the effectiveness of treatment for alcohol or drug problems. Only 62 percent believe that substance abuse treatment is somewhat or very effective for mature women.

Nearly every physician (96 percent) in the CASA survey reports receiving some training in substance abuse. More than a fourth received training during medical school or residency (28 percent) and almost two-thirds (64 percent) received it as part of continuing professional education. Physicians who graduated from medical school since 1980 are over four times likelier than earlier graduates to have received some training in medical school or residency programs (50 percent vs. 12 percent).

This training is far from adequate. For most physicians (67 percent), their training took a day or less. Despite their training, only one percent suspected a substance abuse diagnosis from a classic profile of early symptoms. In its current form, substance abuse training is not preparing physicians for the clinical challenge of detecting substance abuse and addiction.

Caregivers

Pharmacists and non-physician providers of care--from home health assistants to those who deliver in-home meals for mature adults--may not look for the problem, due to lack of time, knowledge or skills. They may mistake the symptoms of alcohol and prescription drug abuse and dependence, such as depression, irritability, stomach upset, malnutrition, weight loss, memory loss, self-neglect, insomnia and frequent accidents, for the inevitable consequences of age or the illness.[84] Family and friends may look the other way, unable to face the possibility that mom, grandma, their wife or friend could be an addict.

Cigarette smoking escapes the attention of those who have little confidence that habits can change after age 59. Believing that the damage is already done, they may think urging a woman to quit after age 59 is pointless.

The Untapped Power of Physicians

By counseling patients for as little as five minutes, a physician can help prevent the development of substance abuse by patients who appear to be at risk of the problem.[85] While such interventions have not been tested on adults over 59, they appear to be more effective with women. Brief physician counseling also increases the odds that a woman will quit smoking and is an important step in helping a woman find appropriate treatment for a drug or alcohol problem.[86] Yet the CASA survey and other research indicates that many physicians miss these opportunities to intervene.[87]

The Stunning Treatment Gap

Compared to alcoholics younger than 60, mature adults do just as well in treatment based on measures of reduced alcohol use and sustained abstinence.[88] Some studies suggest that on average they do even better.[89]

Nevertheless, less than one percent of the 1.8 million mature women who may need treatment for alcohol abuse or alcoholism get it. In 1993, only about 37,214 adults over 59 were in treatment for alcohol problems.* [90] It is not known what percentage of them are women, but overall, women represent less than a third (29 percent) of those in treatment.[91] This means that while some 1.8 million mature women need treatment, only about 11,000 are getting it. In other words, only 0.6 percent of mature women who may benefit from treatment are getting it.

The common sources of recognition and referral to treatment for younger adults--the judicial system and employers--serve few mature adults and more often men. Less than half of hospitalized alcoholic patients are diagnosed as such and many of those diagnosed are not referred to further assessment, counseling or treatment.[92]

Healthier, More Productive Lives for Hundreds of Thousands of Mature Women

To prevent needless and costly suffering, CASA recommends:

Organizations that serve mature women should educate them, their family and friends. Because prevention and detection start at home, organizations that serve mature adults--from local senior centers, pharmacies, churches, temples and mosques to national membership organizations--should inform their mature female clients and members, as well as their family, friends and other caregivers about their growing vulnerability to alcohol as they age, the risk factors of alcoholism that emerges later in life; the dangers of overusing psychoactive prescription drugs; the particular perils of combining them with alcohol; and the benefits of quitting smoking.

Gatekeepers should look for trouble. Physicians and nurses play a critical role in detecting the early signs of trouble, but they cannot carry the whole show. With basic training on the nature of substance abuse and addiction and what the problem looks like in mature women, clergy, social workers, home health aides, those who work in senior centers and those who deliver meals and other services to mature adults can recognize the warning signs and seek help from a professional, such as a mental health counselor, a physician or a substance abuse treatment provider.

Physicians should tap their unique potential. The strong evidence that brief physician interventions can improve medication compliance, improve smoking cessation rates and reduce risky, abusive or dependent drinking creates a fundamental obligation for physicians to act accordingly in their practice.

When physicians see signs of depression, they should think about substance abuse. To prevent ineffective treatments, costly health problems and inadvertently doing harm to their patients, physicians who see symptoms of depression in mature women should always consider the possibility of substance abuse.

Medical schools and Continuing Medical Education programs should train physicians to recognize the early signs of substance abuse. Training physicians to recognize the early signs of substance abuse in patients is a critical step toward getting mature women the help they need. Physicians need to know how to talk to such patients about the problem, how to create a safe and supportive environment that encourages candid discussions about sensitive issues such as substance abuse, how to break through denial, how to motivate patients to take

* Data on the treatment population is grouped by those age 45-64 (112,478) and those 65 and over (9,094). CASA estimated that of those ages 45-64, 25 percent are age 60-64 (28,120).

action to address their problem and where to refer such patients

Physician, nursing and other health professional licensing and certifying boards, and residency review committees of the primary care specialties should create strong requirements regarding substance abuse and addiction. These requirements should include training in knowledge, attitudes and skills, training on the problem in individuals of all ages and genders, and training on all types of drugs: alcohol, licit and illicit drugs and nicotine. Questions about substance abuse should be on every exam for licensing physicians, nurses and other health professionals and certifying specialties.

Pharmaceutical companies should help educate physicians. Pharmaceutical companies should use their detail people, who meet with physicians and their nurses, to improve prescribing practices for mature women and detection of their substance abuse problems. In particular, detailers can focus physicians on the risks of some psychoactive medications for mature women, the dangers for older women who combine even small doses with small amounts of alcohol, and the critical need--before writing a prescription--to look for substance abuse among women suffering depression.

Medicare, Medicaid, private insurers and managed care organizations should pay physicians to talk to patients about substance abuse and reimburse patients for the cost of treatment. We must pay physicians to talk to patients and not just to prescribe pills and do things to them. Without institutional support to address the lack of time and money to compensate physicians for their efforts, physician training alone will be insufficient to address their problem.

Unless Medicare, managed care organizations and insurers pay for treatment, the alternative, which is now the norm, will continue: Mature adults with alcohol and drug problems will be recognized only when they need to be hospitalized for the costly consequences--the heart attacks, cancers and hip fractures that disable women and take their lives.

Pharmacists and pharmacy benefit management firms should use their power to prevent inappropriate prescriptions. They should scrutinize prescription regimens for inappropriate prescriptions, notify physicians promptly and counsel patients regarding the dangers of overuse and combining psychoactive medications with alcohol.

Nursing and other long-term care staff should take action against all kinds of substance abuse and addiction among their patients. They need to work closely with physicians and pharmacists to assure that mature women use psychoactive prescription drugs safely and effectively. And they need to encourage and help their patients quit smoking.

Federal and state policymakers should vigorously enforce regulations to reduce inappropriate prescriptions and deny funding to nursing homes that do not make substantial efforts to help residents quit smoking. Nursing home practice has changed significantly under the weight of federal and state legislative and financial pressure; it will continue to do so only if the laws are vigorously enforced.

The National Institutes of Health and other funders should expand research on alcohol, psychoactive prescription and over-the-counter drug use and abuse among mature women, as well as treatment and smoking cessation strategies for them. The study of mature adults--gerontology--is a growing field, and its leaders need to pay greater attention to the substance abuse problems of this population.[93] Clinical and epidemiological research on the extent of alcohol abuse and alcoholism and the extent, correlates, causes and consequences of psychoactive prescription and OTC drug abuse and addiction among mature women is badly needed. Efforts to open these doors of knowledge will inform efforts to assure that every mature woman uses the amazing panoply of drugs available to her safely and effectively.

Research is needed to understand the inappropriate use of pain medications and alcohol among mature women who suffer from chronic pain. CASA's survey strongly indicated that pain medications are a leading cause of trouble for mature women in either prescription or OTC form, or in combination with alcohol.

Research on the role of race and ethnicity and income in the development of substance abuse and addiction among mature women is also needed. The extent of alcohol and prescription drug abuse and smoking in active retirement communities is another area that needs further study. With so little known about the extent of these problems, such communities may inadvertently aggravate the problem with social events that encourage heavy drinking and staff physicians who look the other way. But the evidence is largely anecdotal. We need solid research to inform prevention and treatment efforts that are effective in these settings.

Research to develop new laboratory tests could aid in early recognition of alcohol abuse and, as a result, improve the prognosis for individuals with alcohol problems. Such tests would provide physicians with a tool for detection when patients are reluctant to disclose hints and physicians are reluctant to probe for more information.

Finally, research can inform the development of effective smoking cessation strategies for mature women who smoke, despite so many pleas from family, friends and public health campaigns to quit. This agenda for action boils down to three basic challenges for our nation:

- Face up to the problem of substance abuse and addiction as one that afflicts our grandmothers, mothers, wives, sisters and aunts.

- Look for early signs of abuse and addiction and use proven prevention and treatment tools.

- Improve our understanding of substance abuse among mature women so that we can respond effectively to the growing number of such women it will affect in the coming years as the Baby Boomers begin reaching age 60.

Addiction--whether it be to alcohol or prescription drugs or illicit drugs or nicotine--is a chronic, relapsing condition. Like other chronic conditions, it responds to treatment. Yet it is the only chronic condition for which our nation is reluctant to provide ongoing treatment and after-care. This foolhardy reluctance costs money and lives throughout the population, and no one--not even our mother or grandmother--is immune.

II. A Hidden Problem

Mature adults--those over age 59--are the fastest growing segment of the American population. This trend will accelerate when the Baby Boomer generation, born between 1946 and 1964, begins reaching age 60. Today 44.2 million people--one out of six Americans--have passed this threshold; by 2020, the number will jump 67 percent to 73.8 million--one out of four Americans.[1]

Rising life expectancy is also increasing the ranks of mature adults, and especially mature women. Average life expectancy is now 73 years for men and 80 years for women, up from below 50 years for both sexes in 1900.[2] This means that a third of the lives of most women will occur after menopause, which usually occurs around age 50.[3] For some, a big chunk of these years will be spent in nursing homes. Three-quarters of all nursing home residents (75.3 percent) are female; among those 85 years and over, eight in 10 (81.0 percent) are women.[4]

These trends pose great challenges to our nation: to sustain American families with four generations living thousands of miles apart; to create housing, employment and social opportunities for mature adults that allow them to live independently as long as possible; and to meet their health care needs as medical treatments become ever more effective, life-prolonging and expensive.

To understand these challenges, the body of research on aging has grown steadily since 1974, when Congress created the National Institute on Aging in the National Institutes of Health.[5] But little of that research has focused on substance abuse and addiction--involving alcohol, prescription drugs and tobacco--among mature adults, and even less on such problems among mature women.[6]

In 1979, First Lady Roslyn Carter co-chaired the National Conference on Mental Health and the Elderly, convened by the House Committee on Aging, which concluded that research, training and treatment programs had failed to address alcoholism and alcohol abuse among the elderly.[8] In 1991, former First Lady and CASA Director Betty Ford testified before the House Aging Subcommittee on Health and Long-Term Care about the lack of insurance coverage for alcoholism treatment.[9] The Subcommittee concluded late-life alcohol abuse was increasing, but little action was taken.[10]

Most Adults Over 59 are Women

- *Because women tend to live longer than men, 58 percent of adults over 59 are women; in 2020, 60 percent of this age group will be female.*
- *The number of women over 59 will soar from 25.6 million today to 40.1 million in 2020.*
- *The ranks of those age 85 and over already tilt heavily toward women; 72 percent of them are female.*[7]

Concerns about the inappropriate use of psychoactive drugs, and particularly anti-psychotic medications, in nursing homes arose during the 1980s.[*] [†] [11] Federal legislation in 1987 established guidelines to restrict widespread use of anti-psychotic drugs as a chemical restraint to control difficult or aggressive patients.[12] Anti-psychotic drug prescriptions subsequently dropped by as much as 41 percent in some nursing homes.[13] Even so, the overall rate of inappropriate prescriptions remains alarmingly high; at least 20 percent of nursing home residents receive inappropriate prescriptions of such psychoactive drugs such as tranquilizers, sedatives or hypnotics and sedating anti-depressants.[14]

A 1987 study found that psychoactive drug use indirectly causes as many as 14 percent of all hip fractures among the elderly--some 30,000 hip fractures each year--triggering at least $600 million in annual medical and nursing home bills.[15] These findings bolstered concerns that some physicians were prescribing psychoactive drugs in excessive strengths or doses and poorly monitoring patient use. Federal and state governments responded with legislation requiring states to monitor prescribing practices and pharmacists to counsel patients when they receive such medications.[16]

These efforts are credited with helping reduce the percentage of non-institutionalized Medicare beneficiaries receiving at least one inappropriate medication from 25 percent in 1987 to 17.5 percent in 1992, the last year for which data is available.[17] But the fact that so many mature adults still receive inappropriate prescriptions is disturbing.[18]

Concerns during the late 1970s about the deadly consequences of tobacco inspired a national public health campaign to reduce cigarette smoking. Its success will reap the rewards of better health for millions of mature adults who quit or never started smoking. But little attention has focused on the eight million mature adults who have resisted the pleas to quit and continue to smoke, despite evidence that quitting even relatively late in life can produce significant health benefits and increase their years of independent living.[19]

In the coming decades, unless the nation makes a strong commitment to substance abuse research, prevention and treatment, two powerful forces could ignite a dramatic rise in the number of women age 60 and over who will suffer from this problem: the aging of the Baby Boomer generation, which has shown higher rates of substance abuse than the current generation of mature women, and the closing gender gap in substance abuse among younger adults.[20]

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[*] Psychoactive drugs are medications that alter moods by affecting the central nervous system. Some of them can be abused and addicting.

[†] Anti-psychotic drugs are medications that reduce or eliminate agitation and the symptoms of psychosis, such as hallucinogens and paranoia. They do not create pleasurable effects and, as a rule, are not abused by patients.

The first step toward such a national commitment is to get their problem out of the closet. Shamed and embarrassed, mature women tend to hide alcohol or drug problems at nearly any cost, retreating into solitary drinking or the private, less stigmatized abuse of psychoactive prescription drugs. Many of them are depressed and socially isolated, adding to the severity of the alcohol and prescription drug abuse and hampering its detection.

As a result, many Americans underestimate the scope and severity of substance abuse and addiction among mature women. By opening our eyes and learning how to detect the early warning signs of its ruinous consequences, we can take steps to prevent and treat it among millions of mature women, dramatically increasing the quality of their lives and those of their families, children and their grandchildren and reducing health care costs.

Looking the Wrong Way

Most people do not see substance abuse among mature women because they are not looking for it. But even for those who look, four key factors conspire to keep the problem secret: 1) lack of understanding of the falling tolerance of mature women to alcohol and drugs; 2) failure to recognize the symptoms; 3) failure of established referral routes to unearth the problem; and 4) efforts by women to hide it at any cost.

Falling Tolerance

The mature female alcoholic does not fit the stereotype of the heavy-drinking Skid Row alcoholic or drug abuser.[21] She may be drinking "moderately" by the standards of younger adults and she may be taking prescription drugs in amounts that family and friends believe is "safe."[22] But mature women experience problems related to alcohol and psychoactive prescription drugs and get addicted faster and by consuming smaller amounts than any other group. This phenomenon, known as "telescoping," occurs for two reasons: tolerance falls with age and women of any age are more vulnerable than men to the effects of alcohol and, preliminary research suggests, psychoactive prescription drugs.

Alcohol. Tolerance for alcohol falls as individuals age because the amount of lean body mass (muscle and bone) and water in the body declines with age.[23] Consequently, given the same quantity of alcohol, older adults experience a higher concentration of alcohol in the blood. Reduced liver and kidney function may also slow down the metabolism and elimination of alcohol from the body.[24] These changes can surprise mature women. What was safe and moderate drinking in their 30s and 40s can be dangerous, abusive and addicting in their 60s and 70s.[25]

At any age, women are more vulnerable to the effects of alcohol: on average, one drink packs the same wallop for a woman that two drinks do for a man.[26] As a result, women tend to slip into abuse and dependence more quickly.[27] Differences in body weight, body water and less of the stomach enzymes that metabolize alcohol before it reaches the blood of women mean that, from the same drink, more alcohol reaches the blood stream of women than men.[28] Research has not yet measured how much greater this vulnerability is in mature women.[29]

Psychoactive prescription drugs. Just as tolerance for alcohol declines with age, so does tolerance for some prescription drugs.[30] Mature adults--and especially mature women--need to take less of a drug than do younger adults to get the same effect, and some drugs are unsafe at any level.[31] As a result, dependence can sneak up on a mature woman, taking hold without any apparent "abuse" of the medication.[32]

With age, an individual's metabolism slows down so that a drug remains in the body for more time and less is needed to achieve the same effect.[33] The decline in lean body mass and body water and increase in fat--which together may occur without any change in weight--also boosts the impact of certain medications.[34] Drugs that dissolve in water have a more potent effect on mature adults because the total volume of body water decreases with age.[35] And medications that dissolve in fat stay longer in the

bodies of mature adults, who tend to have more fat than do younger adults.[36]

To make matters worse, women of any age appear to be most sensitive to the effects of psychoactive drugs. For reasons that are not yet clear, some benzodiazepines, antipsychotics, analgesics and anti-depressants appear to have a greater impact on women than on men.* [37] One reason may be that women usually have a higher proportion of body fat than do men, and some benzodiazepines such as diazepam, which dissolves in fat, may have a greater impact as a result.[38]

Late-onset alcoholism and psychoactive prescription drug dependence. The drop in tolerance that mature adults experience can help trigger alcohol and prescription drug abuse and dependence. Although most cases of alcoholism develop by the 30s or 40s, late- onset alcoholism emerges later, often after age 60.[39] Among mature alcoholics, about a third became dependent after age 59.† [40] A study of mature adults (mostly women) who were dependent on psychoactive prescription drugs also found that a third (35 percent) had developed the problem after age 59.[41]

Although little research has examined the correlates of late-onset prescription drug problems, alcoholism that emerges later in life seems to be the product of a greater sensitivity to alcohol combined with the use of alcohol to cope with age-related stresses such as retirement, an empty nest or death of spouse.[42] It appears to stem less from a genetic predisposition to alcohol problems than does alcoholism that emerges earlier in life.[43]

Women suffer higher rates of late-onset alcoholism.[44] Roughly half of all cases of alcoholism among mature women begin after age 59, [45] while among mature men, only a quarter of all cases do.[46] This vulnerability may stem from higher rates of the stresses, such as the loss of a spouse, social isolation and financial crises, which contribute to alcohol as well as prescription drug problems that emerge late in life.[47]

Failure to Recognize the Symptoms

The symptoms of a woman's alcohol abuse may mimic conditions that come with age--memory loss, trouble sleeping, fragility, falls and injuries. And the symptoms of her psychoactive prescription drug abuse may mimic the complaints that triggered the initial prescription--anxiety, depression and trouble sleeping.[48] In both cases, only those with keen eyes will detect the substance abuse.

CASA's survey of primary care physicians (see Chapter V) indicates that many of them lack such keen eyes. Physicians appear to focus on individual symptoms, such as stomach upset, anxiety or loss of energy, and come up with a narrow diagnosis that would not be surprising in a mature adult, such as an ulcer or depression. But the consequences of alcohol abuse and dependence usually appear as an array of seemingly unrelated symptoms. Unless physicians--and others who know and serve mature adults--look at the constellation of complaints and ask themselves not only "Is it age?," but also "Can it be substance abuse?," they won't see the underlying alcohol or drug problem.

Failure of Established Referral Routes

Alcohol and prescription problems also tend to escape recognition because established routes to treatment do not serve most mature women. Indeed at any age, traditional routes to treatment are less effective for women than for men.[49] Physicians, the legal system and employers are less likely to refer women to treatment.[50] Three effective early intervention methods--drunk-driver rehabilitation, public-intoxicant intervention and employee assistance programs--reach higher proportions of men with alcohol problems than women with alcohol problems.[51]

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* Benzodiazepines are the major class of drugs used to treat anxiety and insomnia. They depress the central nervous system, may interact adversely with alcohol, and can be abused and addicting. Analgesics are painkillers.

† Some research uses age 50 as the threshold for late-onset alcoholism.

Because many mature women do not drive frequently and most are retired, they are least likely to be arrested for drunk driving or an alcohol-related crime, or to get in trouble at work for alcohol-related performance problems. Instead, they must rely on family, friends, physicians and other caregivers to notice their substance abuse problems and help them get into treatment. But because these individuals frequently miss the signs of trouble in mature women, many cases go unrecognized.

The failure of family and friends to see the problem is in some ways most poignant. Many mature women who abuse alcohol are widowed and often alone, reducing the number of opportunities for others to spot the signs of a drinking problem. For those with a wider social network, family and friends may not recognize the disorder because they don't want to believe that their wife, mom or companion could be "a drunk."[52] Or they think that heavy drinking is one of the few pleasures left in her old age. Or they believe that older adults won't change their habits, so why try?[53]

Efforts by Women to Hide the Problem

Denial and despair are hallmarks of addiction at any age, thwarting family, friends and physicians who ask about it and diminishing the value of research that relies on individuals to report their own alcohol or prescription drug problems.[54] This is particularly true for mature women. They are likely to believe that addiction is a moral flaw, rather than a disease.[55] They feel ashamed of their drinking problem because they grew up learning that getting drunk would destroy a good reputation and replace it with one of sexual promiscuity.[56] Most mature women try to hide a drinking problem--and the psychoactive drug problem that often accompanies it--at nearly any cost.

The Many Hidden Faces

Substance abuse and addiction among mature women has many faces: women may abuse alcohol, psychoactive prescription drugs, mood-altering over-the-counter (OTC) drugs, smoke cigarettes or do a combination of each. Abuse of these substances often coincides, but because of important differences in prevalence, we will begin by addressing alcohol, psychoactive prescription and OTC drugs and tobacco separately.

Few mature adults use illicit drugs.[57] Only 3.8 percent of mature women and 7.6 percent of mature men say they have even tried illegal drugs; none report currently using such drugs.[58] CASA's survey of physicians found that on average, only two percent of their mature female patients have problems with illicit drug use. A small number of physicians--16 percent--said that at least five percent of their mature female patients use illicit drugs; these cases are most likely women struggling with long-standing drug addiction.

The hidden nature of substance abuse and addiction among mature women makes precise estimates of its scope difficult. The following analysis will attempt to quantify two groups of mature women: those who have already fallen prey to abuse or addiction, and those at high risk of doing so. The first group needs help gaining recognition and entry into effective treatment and after-care, the second needs to be targeted for prevention.

Substance use, abuse and addiction exist on a continuum; the challenge of prevention is identifying those who are at high risk of moving along the continuum toward abuse and addiction, and intervening to help move them to the safer end-- abstinence or light drinking, safe and appropriate use of prescription drugs and no smoking. Tackling this challenge offers the greatest opportunities for preventing the physical and mental destruction wrought by substance abuse and for capturing millions of dollars in cost savings as a result.[59]

Alcohol

Alcohol use, abuse and dependence is less common among mature adults than any other age group.[60] Some drinkers die before they reach age 60; many reduce or stop drinking by age 60.[61]

Yet some women and men increase their drinking as they age.[62] Mature adults often drink more frequently, but in smaller amounts than younger adults.[63]

Mature women are less likely to drink than mature men; one out of four mature women (25.2 percent) and one out of two mature men (52.0 percent) are current drinkers.* [64] Today's mature women may be the last generation to grow up hearing that nice girls don't drink--or at least don't get drunk. As some in the alcohol industry have worked hard to recruit female customers, particularly since the advent of feminism in the 1960s, women have begun to drink like men.[65] The gender gap among teenagers is almost gone; 16.7 percent of girls and 18.9 percent of boys are current drinkers.† [66]

For both women and men, drinking after age 59 is most common among those who say they are healthy.[67] Mature women who say their health is excellent or very good are almost eight times likelier to drink than those who say their health is fair or poor (38.7 percent vs. 5.2 percent).[68] But those who *abuse* alcohol are not thriving. Poor health, depression and social isolation are both causes and consequences of alcohol abuse and alcoholism after age 59.[69] The question is what percentage of mature women are abusing alcohol, or at high risk of doing so.

Defining Alcoholism Among Older Adults

The American Society of Addiction Medicine defines alcoholism as "characterized by impaired control over drinking, preoccupation with the drug alcohol, use of alcohol despite adverse consequences and distortions in thinking, most notably denial." The American Medical Association recommends adding to this definition for the elderly, "The onset or continuation of drinking behavior that becomes problematic because of physiological and psychosocial changes that occur with aging, including increased sensitivity to alcohol effects."

--AMA. (1995). *Alcoholism in the elderly: Diagnosis, treatment and prevention: Guidelines for primary care physicians*. Chicago, IL: AMA.

Taking Risks

It is difficult to quantify the percentage of mature women who are at risk of abusing alcohol or already doing so because accurate and proven measurement tools for older adults are lacking. Opinions on what constitutes "risky," abusive or dependent drinking for such adults vary.[70] Standard measures of alcohol abuse or dependence, designed primarily for younger men, fail to account for two factors among mature women: they experience problems from smaller quantities of alcohol than any other group; and they exhibit different symptoms of alcohol abuse or dependence than younger adults.[71]

One standard for "risky drinking" from the National Institute on Alcohol Abuse and Alcoholism (NIAAA) takes into account women's greater vulnerability to alcohol. The NIAAA generally recommends that women have no more than one drink a day and men have no more than two drinks a day;* it also recommends that men over age 65 reduce their alcohol consumption to one drink a day.[72] Based on evidence that the negative consequences of drinking increase as consumption rises, these guidelines mark a threshold above which people are at significant risk of alcohol-related health problems and of becoming dependent on alcohol.[73]

CASA's data analysis reveals that one in 10 women over age 59 (10.5 percent) drink more than the NIAAA limit of one drink a day

* Current drinkers have had at least one drink during the past month, a measure commonly used in research.

† Girls and boys are ages 12 to 18. The difference between their drinking rates is significant at a level of $p<0.05$.

* A standard drink is 12 grams of pure alcohol, which is equal to one 12-oz. bottle of beer or wine cooler, one 5-oz. glass of wine, or 1.5 oz. of distilled spirits.

(compared to more than one in four women age 18 to 59 (28.6 percent).[74] By comparison, more than one in four mature men (28.9 percent) drink above the NIAAA limits (compared to almost half of men age 18 to 59 (49.2 percent).[75]

Other research has found similar results. In a sample of patients above age 60 who were visiting their primary care physicians, 12.2 percent of women said they regularly drank more than the NIAAA limits.* [77] The extent of heavy drinking seems to vary widely by setting. A 1986 survey in a California retirement community, for example, found that 22 percent of women (vs. 31 percent of men) drank three or more drinks a day.[78]

CASA's analysis also indicates that 12.3 percent of mature women have felt they should cut down on their drinking (vs. 27.6 percent of mature men) and 8.9 percent have felt badly or guilty about their drinking (vs. 16.6 percent of mature men).[79] While the degree to which women have felt concerned about their drinking cannot be taken as an indicator of alcohol abuse, the prevalence of these feelings appears to coincide with the number of women drinking above the NIAAA threshold.

High Rates of Drinking Problems in Health Care Settings

Because drinking problems and poor health go together, abusive or dependent drinking is usually much more common in health care settings than in the general community. As health problems worsen and treatment grows more intensive, alcohol problems generally grow more prevalent. (Data not available by gender.)[76]

- *In a trauma center, 13 percent of the mature adult patients were dependent on alcohol.*
- *In a hospital emergency department, 14 percent of all patients over 64 were abusing alcohol.*
- *In an acute care hospital for the mentally ill, 19 percent of patients over 64 were problem drinkers.*
- *In a hospital general medical service, 21 percent of mature adult inpatients were alcoholics.*
- *In nursing homes, 20 to 50 percent of residents have current or past problems with alcohol.*

These findings suggest that 10.5 percent of mature women--2.7 million women are drinking enough to put themselves at risk of the health problems that alcohol can cause. And they are at risk of alcohol abuse and addiction, which can sneak up on mature adults as the physical and mental challenges of aging set the stage for alcohol problems.

Abuse and Addiction

As many as 1.8 million of these 2.7 million mature women may be abusing alcohol. In CASA's survey, primary care physicians reported that, on average, seven percent of their mature female patients--one out of 14--may have problems with alcohol abuse.† This finding is supported by another study that tested for alcohol abuse in a sample of mature women in primary care physician offices; it found that 8.6 percent were abusing alcohol.‡ [80] Applying the CASA survey rate of seven percent to the general population suggests that some 1.8 million mature women may be abusing alcohol.

Physician reports are only a rough measure of the extent of alcohol abuse and addiction in the general population. Generally the prevalence of the problem is higher in health care settings

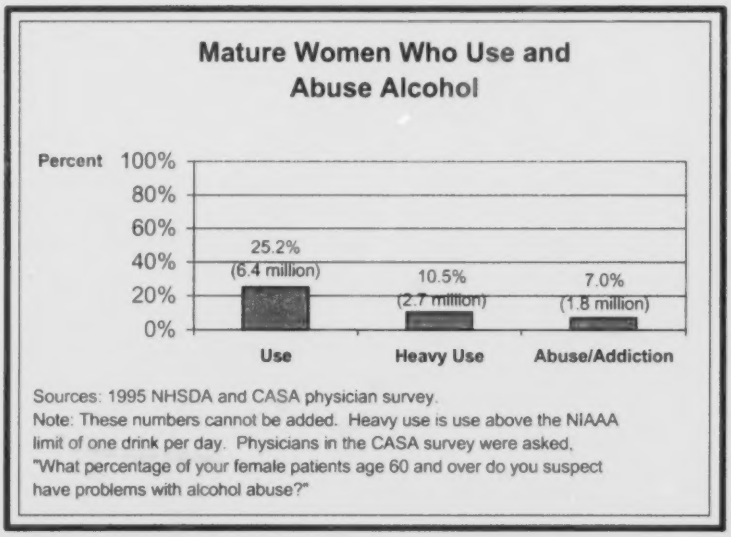
* For men, this study applied the limit of two drinks a day to men of all ages, rather than using the NIAAA limit of one drink a day for men age 65 and above. Using the two-drink limit for all ages, it found that 14.8 percent of men exceeded the limit. Using this same criteria with the NHSDA, CASA found a similar result of 13.0 percent.

† The CASA survey asked physicians, "What percentage of your female patients age 60 and over do you suspect have problems with alcohol abuse?" The survey did not ask about specific criteria for abuse as defined by the American Psychiatric Association's *Diagnostic and statistical manual of mental disorders, 4th edition (DSM-IV).*

‡ This rate reflects the number of mature women who answered yes to at least one question on the CAGE questionnaire, a screening tool for alcohol problems that is described in detail on page 48.

because heavy drinking spawns so many health problems.[81] But because almost all mature women (up to 93.0 percent) visit a physician's office regularly and most (77.7 percent) say they usually see the same physician, the difference in the prevalence of substance abuse among those who visit primary care physicians and those who do not is unlikely to be great.[82] At the same time, since many studies indicate that physicians fail to recognize most cases of alcohol abuse and alcoholism among their patients, it is likely that the CASA survey greatly underestimates the extent of the problem.[83]

Studies that attempt to measure the extent of the problem by applying criteria of alcohol abuse and alcoholism designed primarily for younger adults (usually men) to mature women underestimate the problem even more. Such research has determined that roughly one in 100 women (one percent) are abusing or dependent on alcohol, compared to about five percent of mature men,[84] a serious underestimation of the problem among mature women.



Sources: 1995 NHSDA and CASA physician survey.
Note: These numbers cannot be added. Heavy use is use above the NIAAA limit of one drink per day. Physicians in the CASA survey were asked, "What percentage of your female patients age 60 and over do you suspect have problems with alcohol abuse?"

For example, researchers often measure drinking by asking people how many drinks they consume and how often.[85] But as a measure of problem drinking, this approach is unreliable if individuals do not adjust for the facts that tolerance for alcohol declines with age and alcohol generally has a more powerful effect on women than men.[86] Mature female alcoholics are likely to drink less than alcoholics of any other age or sex.

Moreover, most formal assessment tools for alcohol problems generally ignore the common symptoms of alcohol problems among mature women, such as depression, irritability, stomach upset, malnutrition, weight loss, memory loss, self-neglect, insomnia and frequent accidents.[87] The criteria set forth by the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Volume IV (DSM-IV) requires that a person demonstrate one of the following behaviors:[88]

- Continued use despite a social or interpersonal problem caused or exacerbated by the effects of drinking;
- Recurrent drinking resulting in failure to fulfill major role obligations at work, school or home;
- Recurrent alcohol-related legal problems;
- Recurrent drinking in situations in which alcohol use is hazardous, such as driving a car or operating a machine when impaired by alcohol.

A mature woman may be abusing alcohol, but still be unlikely to report social or legal problems if she is socially isolated; unlikely to fail in role obligations if she is no longer parenting or otherwise employed; and unlikely to report physical hazards if she is unaware of them or denying that alcohol is their cause. Thus, researchers, as well as family, friends and physicians, who look for alcoholism through the markers of common among younger adults often lack the keen eye to spot it in older adults.

Absent epidemiological research on the extent of alcohol abuse among women over 59, the CASA

survey of physician is as good first measure of the problem and a signal of how extensive such abuse is: one in 10 mature women--10.5 percent, or 2.7 million--are drinking enough to cause health problems, including one in 14--seven percent, or 1.8 million who may already be abusing alcohol or addicted to it.

Psychoactive Prescription and OTC Drugs

Mature adults are the heaviest users of prescription drugs. Although they account for 16.5 percent of the population, mature adults consume a third of all prescriptions.[89] The most common prescriptions for seniors are cardiovascular drugs, anti-microbials, hypoglycemic agents, psychoactive drugs including sedatives and anti-arthritics.* [90] Half of all sedative users are over 59.[91]

Mature women take more prescription drugs than any other sex or age group. They are most likely to be long-term users of prescription drugs and to use more than one medication at a time.[92] They are the biggest users of three types of psychoactive drugs: tranquilizers, sedatives or hypnotics and anti-depressants, and they are frequent users of narcotic painkillers.[93]

At least one of seven mature women (14.8 percent) takes medication for a mental health disorder.† [94] Some research suggests that use of psychoactive drugs is far more widespread.[95] Three studies, one in a southeastern city in 1995, one in Seattle in 1985 and a national study in 1977, found that about one in four (23.4 to 28.0 percent) older adults were taking at least one psychoactive prescription drug.[96] Because psychoactive drug use has not fallen since the early 1980s, these studies suggest that roughly one in four mature women today (6.4 million mature women) are using at least one psychoactive prescription drug.‡ [97]
Use of psychoactive prescription drugs is highest in nursing homes, where female residents predominate. Half of all residents take at least one psychoactive drug.[98] One in four (26.3 percent) takes anti-depressants; one in seven (14.2 percent), anti-psychotics; one in 10 (10.9 percent), anti-anxiety medications; and one in 37 (2.7 percent), hypnotics.§ [99] Rates of use can vary significantly among nursing homes.[100]

Although little research has focused on over-the-counter (OTC) drug use by mature adults, they also appear to be heavy and long-term users of such medications. Many illnesses for which individuals take OTC medications, such as arthritis and insomnia, become more common with age. Because OTC drugs are less expensive and easier to get than prescriptions, mature adults may use them to treat chronic problems, such as pain or insomnia, without seeking a physician's advice. A 1995 study in Texas found that 82 percent of nursing home residents use OTC drugs; 17 percent of them without a physician's advice. A survey in the late 1970s found that 69 percent of all mature adults use OTC drugs and 40 percent do so daily. Almost a third (30 percent) mix them with alcohol and/or prescription drugs.[101]

While OTC drugs are generally not addictive, a few--diet pills, sleep aids and some cold and cough medicines--can be considered "psychoactive" because they are "mood altering" (either stimulating or sleep-inducing). Research on their abuse is sparse and dated, allowing for few definitive conclusions. Indeed, little of the research on substance abuse and addiction has focused on either prescription or OTC psychoactive drugs despite the fact that women

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* Cardiovascular drugs are most commonly those intended to treat heart disease or hypertension. Anti-microbials are medications that fight infections. Anti-arthritics are medications used to treat arthritis.

† The rate of 14.8 percent is based on a sample of women over 64. In the absence of comparable data on women over 59, CASA applied the 14.8 percent to them as well.

‡ Although psychoactive drug use has not fallen since the early 1980s, use of tranquilizing and sedating drugs has decreased while use of non-sedating anti-depressants (the Selective Serotonin Reuptake Inhibitors) has risen dramatically. Thus, a smaller portion of the mature women who today are using psychoactive drugs are taking tranquilizing or sedating drugs than were doing so in 1983.

§ Data on narcotic painkiller use was not available in this study.

have a long history of troubles with legally available psychoactive drugs.

During the late 19th century, the typical opiate addict was a white middle-class woman.[102] She drew little attention, caused few social problems and used her drugs--morphine, codeine or laudanum--at home, having bought them from her physician, at the local store or from the Sears Roebuck catalogue, which sold "two ounces of laudanum for 18 cents."[103] Critics charged that physicians, who then typically practiced after only one year of book-learning, were liberally doling out opiates to women for painful "female problems," nymphomania and other concerns of and about women.[104] In 1914, when the Harrison Act restricted use of such "medications," many women continued to get opiates fraudulently from their physicians or sought prescriptions for sedatives or hypnotics such as barbiturates.[105]

Common Psychoactive Drug Prescriptions for Mature Women

- ***Anti-anxiety drugs*** *are medications, such as diazepam and flurazepam, that reduce excessive levels of brain chemicals (serotonin and norepinephrine) that are associated with anxiety. They are often called tranquilizers. They may interact adversely with alcohol, and can be abused and addicting. Benzodiazepines are the major class of drugs used to treat anxiety.*
- ***Sedatives or hypnotics*** *are medications used to treat insomnia and other sleep disorders. They may interact adversely with alcohol, and can be abused and addicting. The benzodiazepines are often used to achieve sleep through sedation.*
- ***Tricyclic anti-depressants*** *are medications, such as amitriptyline, that act to keep more brain chemicals associated with mood (norepinephrine, dopamine and serotonin) active in the brain. Some of these drugs are sedating, may interact adversely with alcohol and can be abused.*
- ***Narcotic analgesics****, such as codeine and morphine, are painkillers in the opioid family. They are generally used when over-the-counter medications like acetaminophen and ibuprofen are ineffective. They may interact adversely with alcohol, and can be abused and addicting.*

Today barbiturates have generally been replaced by the safer alternative of benzodiazepines such as diazepam (Valium and competitors).[106] The number of prescriptions for benzodiazepines, which can serve as tranquilizers, sedatives or sleeping pills depending on their dose, soared from less than a million in 1970 to 52 million in 1990.[107] While their use has declined slightly in recent years, they remain the typical prescription for anxiety and insomnia, and are heavily prescribed for mature women.[108] Posing a lower risk of fatal overdose than barbiturates, benzodiazepines still carry the risk of abuse and addiction.

Use of prescription drugs has exploded since World War II. In 1950, pharmacists dispensed about 363 million prescriptions.[109] Today retail pharmacies dispense roughly 2.3 billion prescriptions each year.[110] Mail-order pharmacies add another 0.4 billion--a total of 2.7 billion.[111] On average, every American takes 9.8 prescriptions a year.[112] With older adults accounting for a third of all prescriptions, older adults take an average of 19.4 prescriptions a year.[113] In the CASA survey, physicians report that mature women take an average of five prescription drugs *at the same time.*

Posing Risks

Four types of psychoactive drugs pose the greatest risk of abuse and dependence for mature women: 1) anti-anxiety drugs (tranquilizers), 2) sedatives or hypnotics (sleeping pills), 3) sedating anti-depressants and 4) narcotic analgesics (painkillers).[114] Inappropriate prescribing and misuse of these medications increase the risk that a mature women will abuse or become dependent on them.

Inappropriate prescribing by physicians. Despite state and federal efforts over the past decade, inappropriate prescriptions for mature adults remain common.[115] One in six Medicare

beneficiaries who live in the community (17.5 percent, 3.5 million mature women) and at least one in five nursing home residents (20 percent, 200,000 mature women) receive at least one inappropriate prescription.[116] In board and care facilities, one in four residents (25 percent, roughly 100,000 mature women) gets at least one inappropriate prescription.[117] Although it is not known how many of these prescriptions are for *psychoactive* medications, such medications are among those most commonly misprescribed.[118]

A recent national survey of consultant pharmacists working in nursing homes found that 44 percent believe that physicians inappropriately prescribe sedatives or hypnotics to nursing home residents; 35 percent believe physicians prescribe anti-anxiety drugs inappropriately; and 33 percent believe physicians prescribe anti-psychotics inappropriately.[119] Many pharmacists expressed concern about the prolonged use of sleeping pills, which women most commonly use.[120]

Prescriptions can be inappropriate for any of several reasons.[121] They may be inherently ineffective or unsafe for the patient, in doses that are too high, or for durations that are too long.[122] The pharmaceutical prescribed may also be inappropriate because it could interact dangerously with alcohol or other drugs that a patient is taking.[123]

A less obvious but dangerous form of inappropriate prescribing is the provision of sedating psychoactive drugs to patients who have an alcohol problem that the physician has not recognized. Physician responses to CASA's survey provide disturbing evidence, described in detail in Chapter V, that this may commonly occur among mature female patients. Patients with alcohol problems should not be given sedatives for two reasons: the medications could interact dangerously with alcohol, magnifying their sedating effects and causing accidents or overdoses, and alcoholic patients are likely to abuse them.

Physicians may give inappropriate prescriptions because they respond to patient demands for particular drugs despite the dangers they pose.[124] The use of pharmaceutical advertising that encourages patients to ask their physicians about psychoactive drugs may increase this pressure on physicians.[125]

Some physicians, over-worked and pressed for time, may simply be unaware of the latest research regarding what medications are safe and appropriate for mature adults.[126] To assess the appropriate use of medications, many physicians rely on detail people, individuals that pharmaceutical companies employ to inform and educate physicians about their products.[127] Physicians can also look at product warning labels (beginning in August, 1998, the FDA is requiring that pharmaceutical manufacturers include precautions on such labels regarding use of medications for mature adults).[128] Despite these sources of information and the physician's basic medical training, the number of inappropriate prescriptions remains high.

Benzodiazepines are among the most common inappropriate prescriptions for mature women.[129] In 1991, a national panel of experts concluded that for elderly adults, physicians should avoid prescribing the "long-acting" benzodiazepines (e.g., chlordiazepoxide (Librium), diazepam (Valium) and flurazepam (Dalmane)), which remain in the body longer than short-acting benzodiazepines and can cause residual daytime sedation, confusion, drowsiness and ataxia (unstable gait) in mature adults.[130]

The panel also recommended that doctors limit nightly use of the short-acting benzodiazepines, oxazepam (Serax), triazolam (Halcion) and alprazolam (Xanax), to a maximum of four weeks because their effectiveness beyond that period is uncertain and dependence may develop.[131] Moreover, physicians at a 1983 national conference to determine a consensus on appropriate treatment of sleep disorders, held by the National Institutes of Mental Health, recommended that physicians not prescribe *any* benzodiazepines for more than four months.[132] Other experts in the field have since upheld these guidelines.[133]

Although these recommendations may help sustain a shift in physician prescribing practices

from long-term to short-acting benzodiazepines that began in the 1970s, the overall number of prescriptions for benzodiazepines does not appear to be falling and inappropriate prescriptions remain common.[134]

Indeed, at CASA's request, Express Scripts®, a company in St. Louis, Missouri that manages pharmaceutical benefit plans, examined a sample of 13,000 mature women who are taking benzodiazepines and found disturbing results:

- Almost one fourth of them (22.4 percent) are taking long-acting benzodiazepines.
- More than one fourth of them (28.9 percent) have been taking short-acting benzodiazepines for more than four months.
- In all, more than half (51.3 percent) of the mature women who are taking benzodiazepines have inappropriate prescriptions.

Sedating anti-depressants, such as amtriptyline (Elavil), are also generally considered inappropriate for older adults because they can cause excessive sedation and other negative side effects.[135] With the introduction of the non-sedating Selective Serotonin Reuptake Inhibitor anti-depressants (SSRIs), such as fluoxetine (Prozac) or sertraline (Zoloft), and similar alternatives such as nefazodone (Serzone), the use of sedating anti-depressants has declined. However, they remain among the most common inappropriate prescriptions.[136]

Women and men who see doctors appear equally likely to receive prescription drugs; about 60 percent of all non-hospital visits to doctors by either sex result in a prescription.[137] But for several reasons, women are likelier to receive inappropriate prescriptions, particularly those for psychoactive medications.[138] Mature women are more likely than mature men to suffer from depression and anxiety disorders, and mature women are almost twice as likely to seek professional help: 16.7 percent of women over 64 vs. 9.3 percent of men that age seek help for mental health problems.[139] Mature women usually seek such help from primary care physicians who may lack proper training on the safest prescriptions for anxiety and mood disorders such as depression.[140]

In addition, some physicians may be too quick to prescribe psychoactive drugs for mature women.[141] Even after accounting for factors such as diagnosis, physician specialty and payment source, women who visit their physician are 37 percent more likely to receive a prescription for a tranquilizer and 33 percent more likely to receive a prescription for an anti-depressant than men who do so.[142] Another study found that doctors are more likely to attribute headaches to "mental and nervous" conditions in women than in men, and to decide that women who complain of digestive, reproductive, "mental and nervous" symptoms are not really sick, compared with men who make similar complaints.[143]

The bottom line is that mature women are most likely to receive inappropriate prescriptions for psychoactive drugs, putting them in danger of excessive sedation, accidents and overdoses, posing the risk that tolerance for the drug will develop and abuse will follow, and creating the possibility that dependence will take hold. Prolonged use of some psychoactive drugs, such as the benzodiazepines, or use of them in excessive dosages can lead to dependence even without any intentional abuse by the woman.[144]

Misuse by patients. Appropriate use of psychoactive prescriptions becomes misuse if mature women start overusing the drugs or using them with alcohol when this mix would be dangerous. Those who think of alcohol as a way to cope with lack of sleep, pain or depression may drink while taking the prescription drugs designed to treat these problems.[145] For some mature women, such misuse becomes chronic abuse or addiction.

The extent of misuse is unknown. Only about half of mature adults follow doctor's orders regarding prescription drugs, but such "non-compliance" includes both overuse and underuse

(failure to take the full amount recommended by their doctors).[146] Underuse is believed to be is far more common than overuse, although little research has examined the extent of overuse.[147]

Forgetfulness often leads to underuse, but some mature adults intentionally do not follow doctor's orders.[148] A belief that the drug is unnecessary or ineffective, a dislike of the side effects it causes and a history of adverse drug reactions are leading reasons.[149] Concerns about the expense of drugs, social isolation, difficulty with child-proof containers and vision problems that hinder reading a physician's instructions are other factors.[150]

> ***Inappropriate use*** *of prescription drugs is the overuse or use of medications in combination with alcohol or other substances when this mix is dangerous. Inappropriate use can be either occasional (**"misuse"**) or chronic (**"abuse"** or **"addiction"**).*

Women are less likely than men to comply with a physician's instructions.[151] This results, at least in part, from the fact that women are more likely to take multiple drugs and for longer periods of time. As the number of medications prescribed for a patient rises and the duration of therapy increases, so does the rate of non-compliance.[152]

When non-compliance involves overuse, women stand on a dangerous path that can lead to abuse and dependence. Women who use sedating psychoactive drugs in combination with alcohol magnify the drugs' impact and accelerate the development of dependence on them.[153]

According to self-reports, misuse of prescription medications is less common among older adults than younger adults. In the 1995 National Household Survey on Drug Abuse, only 0.6 percent of mature adults even admitted to using prescription drugs non-medically during the past year, compared to 4.9 percent of those ages 12 to 30.* [154] But self-reports of substance misuse or abuse may dramatically underestimate the problem.

The exact number of mature women who receive inappropriate psychoactive prescriptions or misuse psychoactive medications is unknown. One in six Medicare beneficiaries who live in the community (17.5 percent) and at least one in five nursing home residents (20 percent) receives an inappropriate prescription.[155] In long-term care facilities, one in four residents (25 percent) receive at least one inappropriate prescription.[156] But it is not known how many of these are *psychoactive* pharmaceuticals. Nor has research determined the extent of misuse of psychoactive medications. It is clear, however, that of the roughly 25 percent of older women (6.4 million women) who take psychoactive prescription drugs, a substantial number is doing so inappropriately, putting many mature women at high risk of abuse and dependence.

Abuse and Addiction

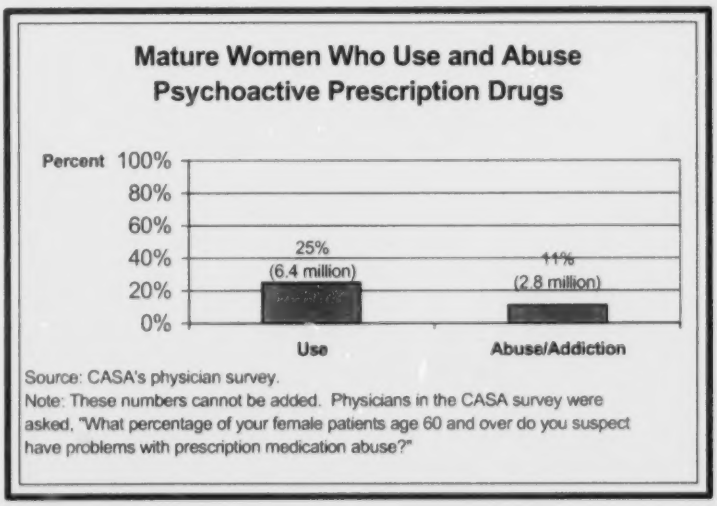
In a 1994 study of mature adults (mostly women) who were dependent on psychoactive prescription drugs, sedatives or hypnotics--and, in particular, the benzodiazepines--were most commonly involved.[157] In a 1987 study of female patients age 65 and over in a psychiatric hospital, 18 percent were found to be dependent on benzodiazepines, and in most cases (75 percent), physicians had not diagnosed the addiction.[158]

Abuse of psychoactive pharmaceuticals, and dependence on them, often overlaps with abuse of alcohol, particularly among mature women.[159] Mature female alcoholics are twice as likely as mature male alcoholics to report using tranquilizers (74 percent vs. 38 percent), and being "unable to keep from using them" (53 percent vs. 23 percent).[160]
CASA's survey of primary care physicians reveals that at least among mature adults, prescription drug abuse is common. Physicians report that on average, as many as 11 percent of

* "Non-medical" use means use of a medication "that was not prescribed" for the individual, or that she "took only for the experience of the feeling it caused."

their mature female patients--one out of nine--are abusing prescription drugs.* Because women who abuse prescription drugs may be particularly prone to visit physicians, not only for their health problems but in order to seek renewed prescriptions for their drugs, this may overestimate the extent of the problem in the general population of mature women. However, just as with alcohol, it is likely that because physicians fail to recognize many cases of substance abuse, their reports likely underestimate the extent of the problem.

Epidemiologic research is urgently needed to determine the exact extent of psychoactive prescription drug abuse among mature women. But in its absence, using patients in primary care offices as a rough approximation of the general population, the CASA survey suggests that as many as 2.8 million mature women may be experiencing problems related to psychoactive prescription drug abuse. This means that 44 percent of the roughly 6.4 million older women who are using psychoactive prescription drugs may be abusing such medications.



Source: CASA's physician survey.
Note: These numbers cannot be added. Physicians in the CASA survey were asked, "What percentage of your female patients age 60 and over do you suspect have problems with prescription medication abuse?"

Tobacco

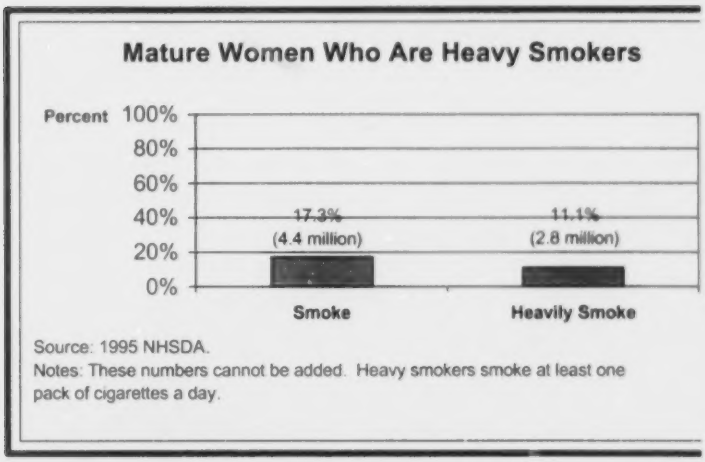
Since the 1920s, tobacco companies have aggressively recruited women. But only since World War II have women taken up the habit in pack-a-day doses, as men had done for years.[161] Sensing the potential for big market growth, tobacco companies targeted women in the 1960s, exploiting the feminist movement by suggesting that smoking was the ultimate symbol of liberation.[162] From the 1960s and 1970s Virginia Slims slogan, "You've come a long way baby," to the more modern woman who announces in Winston cigarette ads, "My buns may not be made of steel, but my butts are all tobacco," cigarette companies are far ahead of smoking prevention and cessation efforts in recognizing the value of tailoring their message to women.

As the health consequences have been documented in the 1965 Surgeon General's report on smoking and a steady stream of research findings thereafter, smoking rates began a decline from 52 percent of adult men in 1965 to 31 percent in 1995, and from 34 percent of adult women in 1965 to 27 percent 30 years later.[163] Yet the smoking rate of women age 65 and over has changed little, hovering between 10 and 13 percent.† [164] This suggests that despite the spectacular success of the public health campaign against smoking, a significant segment of the female population continues to resist pleas to quit.

* The CASA survey asked physicians, "What percentage of your female patients age 60 and over do you suspect have problems with prescription medication abuse?" The survey did not ask about specific DSM-IV criteria.

† Changes in the smoking rate of women age 60 and over since 1965 are not available.

Because some mature adults do manage to quit smoking and others have died from tobacco-related illness, smoking rates are lower among



Source: 1995 NHSDA.
Notes: These numbers cannot be added. Heavy smokers smoke at least one pack of cigarettes a day.

mature adults than among younger adults.[165] While a third of adults age 18 to 59 smoke (33.0 percent), one out of six mature women (17.3 percent, or 4.4 million women) smoke and one out of five mature men (19.9 percent, or 3.7 million men) smoke.* [166] One out of nine mature women (11.1 percent, or 2.8 million women) and one out of six mature men (15.9 percent, or 3.0 million men) smoke at least a pack a day.[167]

Although in their youth, the current generation of mature women was less likely to smoke than the current generation of mature men, this gap has narrowed with age. One reason is that more male smokers may have died before age 60 because they were likelier to have been lifelong heavy smokers. Another is that fewer women quit: 73.3 percent of mature women who have ever smoked have quit, compared to 77.5 percent of such men.† [168] Effective smoking

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* Physicians in the CASA survey reported that one in four (25 percent) of their mature female patients smoke.

† This difference is not statistically significant. However, this difference is consistent with other research that has found lower quitting rates among women than among men.

cessation programs are needed for mature female smokers.[169]

At any age, smoking and heavy drinking tend to go together. CASA's data analysis found that mature women who drink more than the NIAAA recommendations are twice as likely to smoke as those who drink less (38.9 percent vs. 14.9 percent).[170] The overlap between smoking and drinking, as well as the overlap between alcohol and psychoactive drug abuse that is so common among mature women, is not surprising, given the common ways that these substances affect the brain and the similar risk factors that appear to contribute to their abuse.

III. Who is at Risk?

The different threads of substance abuse--heavy, abusive or addictive alcohol consumption, psychoactive prescription drug abuse, and smoking are interwoven. They frequently overlap, stem from common risk factors and as recent scientific research has revealed, affect the brain in similar ways.[1] Using the same pathways, substances like nicotine and alcohol alter levels of the neurotransmitter dopamine in the brain, establishing patterns of use and reward that are the basic elements of addiction.[2]

The patterns of use, misuse and abuse of substances like alcohol and psychoactive drugs usually start with at least one of two motivations: to feel good (e.g. to dull sadness, forget worries and manage stress) or to feel better (e.g. to relax and feel free).[3] Most mature adults do not abuse prescription drugs, become problem drinkers or alcoholics, or smoke. But advancing age can bring with it several factors that together increase a woman's susceptibility to both motivations: decreasing tolerance for alcohol and prescription drugs, traumatic personal losses and financial concerns that cause stress and depression, a rising incidence of medical problems and chronic pain, social contacts that emphasize drinking or social isolation.[4] These factors also reduce the chance that a smoker will quit. While health crises, such as lung cancer or a heart attack, motivate many cigarette smokers to quit, the depression that frequently attends serious illness and life changes, such as widowhood, inhibits many women from doing so.[5]

For family, friends, caregivers and physicians, each factor rings a bell of the heightened risk of substance abuse. But the combination of them sounds an alarm that too few hear.

Coping with Stress

Mature alcoholics often say they started drinking heavily out of boredom and having "more time to drink" after shedding responsibilities of their earlier years.[7] More commonly, however, the problem emerges when a mature adult is struggling with stressful life events such as retirement, an empty nest, the death of a spouse, relative or friend, sudden or chronic illness, the loss of independent living, employment problems or financial woes.[8]

While certain factors put older adults at risk of alcohol or drug problems, it is important to remember that they drink alcohol and use psychoactive drugs for the same reasons younger people do: to have fun, relax, feel free and forget, and because they may have become addicted.[6]

Similarly, mature adults abuse psychoactive drugs to "treat" stress, anxiety, depression, pain and insomnia.[9] Women in particular tend to rely on psychoactive drugs such as tranquilizers, or a combination of alcohol and psychoactive drugs, to cope with stress.[10]

Women are at highest risk of abusing alcohol and psychoactive drugs because they are more likely than men to experience major stress at or after age 59: to be widowed, lose income, suffer financial problems and suffer chronic illness or disability.[11] Many mature women take care of their own parents, which can be stressful;[12] others care for grandchildren, sometimes because their own children are divorced or abuse substances and are not responsible parents.

The difficulty of defining stress hinders research on the connection between it and alcohol or prescription drug abuse.[13] There is the chicken and egg problem: how often do events such as retirement, financial woes or illness precede the drinking or drug problem, and how often are they caused by it?[14] Alcoholics may retrospectively cite stressful events to explain their drinking problem, although their drinking may have prompted or contributed to such events.[15] Some research suggests that stress alone does not lead to alcohol abuse; instead, it is the combination of stress with the belief that drinking will ameliorate it that leads to such abuse.[16] Getting individuals to recognize this distinction can strengthen prevention and treatment strategies that try to help them manage stress without abusing alcohol.

The Spiral Staircase of Depression and Substance Abuse

The mature woman is often trapped on a treacherous spiral staircase of stress, alcohol abuse, depression and psychoactive drug abuse. Stressful events, health problems and social isolation can trigger episodes of depression, which can lead to alcohol abuse and alcoholism.[17] Alcohol abuse exacerbates the depression, which in turn can lead to psychoactive drug abuse, further aggravating the depression and alcohol abuse.[18]

The destructive relationship between depression and alcohol abuse is particularly tight among women.[19] At any age, female alcoholics are twice as likely as non-alcoholic females to be depressed and almost four times more likely than male alcoholics to be depressed.[20]

Smoking is also more common among women suffering from depression, which in turn makes it more difficult for women to quit.[21] CASA's data analysis revealed that mature women who feel depressed are 38 percent likelier to smoke than mature women who don't feel depressed (22.9 percent vs. 16.6 percent), although small sample size made it impossible to conclude that this difference is statistically significant.* [22]

The relationship between smoking and depression is particularly important in light of scientific evidence that nicotine elevates dopamine levels in the brain, just as do other drugs such as cocaine and opiates.[23] The fact that nicotine lifts an individual's mood in this way, along with evidence that quitting smoking

* Mature women who are "depressed" say they felt depressed at least two weeks during the past year.

may aggravate or trigger depression and lead to relapse, makes it essential to deal with depression as part of any effective smoking cessation effort.[24]

Older women are more likely than older men to feel depressed. About four million women over age 65 are depressed, compared to about two million elderly men.[26] Depression after age 60 is most common among women who are unmarried, lack close friends, participate in few club activities, frequently visit physicians, are in declining health or disabled and take several prescribed medications.[27] They may be struggling with an empty nest and the loss of their role as full-time mother.[28] But perhaps the biggest factor during older adulthood is bereavement.[29] Lingering depression is common after the death of a spouse.[30]

While younger adults are likely to cite impulsiveness, sensation seeking and a desire to be unconventional as motivations for their drinking, older problem drinkers are more likely to report using alcohol to alleviate depression and feelings of isolation.[25]

Chronic Pain

One of the most difficult challenges that often accompanies failing health is chronic pain. Arthritis or other chronic pain problems can lead to misuse of painkillers and dependence on them.[31] In a sample of mature adults who were abusing prescription drugs--90 percent of them women--more than half (56 percent) had arthritis and almost a third (30 percent) suffered chronic pain.[32] Chronic pain also contributes to depression, a connection that appears more often among women than men.[33]

Because other research suggests that most adults who suffer from chronic pain are *under*-medicated, these findings underline the importance of careful prescribing practices by physicians to treat pain adequately without contributing to abuse or dependence.[34]

Women experience pain differently than do men. In studies that experimentally induce pain, women have demonstrated lower pain thresholds than men, which means that given the same stimulus, women report a higher level of pain intensity than men.[35] Other studies have found that given the same diagnoses, women tend to report higher pain intensity and more sites of pain than men.[36] Prescription painkillers appear to have a more powerful impact on women than on men.[37] The relationship between pain and alcohol abuse may also be strong among mature women, but research is needed to determine the extent of this relationship.

Filling Gaps of Loneliness

Because of the death of a spouse or friends, or separation from family, loneliness often marks the life of older adults and alcohol often fills the gap. Among mature women, widows are more likely to have drinking problems.[38] Unlike younger alcoholics, most older alcoholics drink at home and alone.[39] While mature men can easily go to a bar alone, mature female alcoholics are less comfortable doing so and are more likely to report solitary drinking.[40]

Lack of social support from spouses, children, family and friends may also contribute to alcohol abuse and dependence.[41] With fewer social contacts comes fewer responsibilities, which lessens the pressure or incentives to restrain drinking.[42] Lack of social interactions may also prevent early detection and intervention by a friend or relative of a woman who is having trouble with her drinking.[43] Poor social support may also aggravate anxiety or depression which, in turn, contributes to problem drinking.

The Social Contagion of Drinking and Smoking Companions

Having friends who disapprove of drinking and social contacts that are *not* oriented around drinking can protect mature adults from drinking problems and help those with them to reduce their drinking as their tolerance lowers.[44] But

for mature women, drinking and smoking companions carry a social contagion.

Female problem drinkers over age 64 who rely on friends, spouses or romantic attachments who drink, increase the severity of their own drinking problem.[45] Mature women who abuse alcohol often drink as a way to sustain relationships that involve heavy alcohol use, seek support and companionship of other drinkers, and encourage companions to drink. High drinking rates are found in retirement communities that emphasize social activities involving alcohol use.[46] One of four heavy drinkers in retirement communities have been found to increase their drinking since moving there.* [47]

Smoking women find a comradery among fellow smokers that they don't want to lose by quitting.[48] Mature women who are widowed (21.2 percent) are likelier to smoke than those who are married (13.9 percent) (although small sample size made it impossible to determine that this difference is statistically significant).[49] For women who have lost a spouse, the companionship of smoking with friends may be all the more important.[50]

The Relevance of Religion

Mature women who are not religious are more likely to drink and smoke than those who hold religious beliefs.[51] CASA's data analysis found that mature women who describe themselves as not being religious are much more likely to drink (90.8 percent) than those who identify themselves as Catholic (64.0 percent) or Protestant (52.3 percent).† [52] Similarly those who say they are not religious are more likely to be current smokers (44.8 percent) than those who are Catholic (24.8 percent) or Protestant (20.7 percent).‡ [53]

Spiritual values and social support that mature women share in religious communities may help prevent substance use and abuse. In these settings, individuals who do not use or abuse substances may also serve as role models. More research is needed to understand this connection because the potential of religion and spirituality--and the clergy--to bolster these preventive elements for mature adults appears largely unrecognized and untapped.

The Relevance of Race, Ethnicity and Income

Alcohol

More than one out of four mature white women (26.7 percent) are current drinkers, compared to one out of six mature black women (17.5 percent) and mature Hispanic women (17.2 percent).§ [54] But CASA's analysis reveals that black mature women are as likely as white women to drink *heavily* (i.e. more than the NIAAA recommendations) (10.3 percent vs. 10.9 percent).[55] Both are more likely to drink heavily than Hispanic mature women (6.9 percent).** [56]

At all adults ages, black and Hispanic women are more likely than white women to report

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* In this study, heavy drinkers have at least two drinks a day.

† The survey sample was too small to determine rates for other religious affiliations. Because the NHSDA does not contain data on religious affiliation, this data comes from the 1995 Health and Retirement Survey (HRS). The HRS does not ask about use of alcohol during the past month; those who "drink" represents those who answered "yes" to the question, "Do you ever drink any alcoholic beverages?" Overall, the reported prevalence of current drinking is higher in the HRS than in the NHSDA.

‡ Small sample size makes it impossible to determine that the difference between smoking rates among those who are not religious and those who are Protestant is statistically significant. This data comes from the HRS. Overall, reported prevalence of smoking is higher in the HRS than in the NHSDA.

§ Although small sample size makes it impossible to conclude that these rates are statistically significant, these findings are consistent with data in younger age groups indicating higher drinking rates among white women.

** Although the heavy drinking rate among Hispanic women is not statistically significantly lower, other research has found heavy drinking to be lower among mature Hispanic women.

social problems related to their drinking.* [57] Hispanic women and white women who drink report equal incidence of dependence (five percent vs. four percent); and black women who drink report an even higher incidence of dependence (nine percent).[58] Together these findings suggest that while white women are more likely to drink than minority women, minority women may be more likely to be problem drinkers.[59]

Mature women in families with incomes of at least $40,000 are twice as likely to drink as those in families with incomes below $40,000 (43.6 percent vs. 21.8 percent).[60] Mature women with incomes of at least $40,000 are three times as likely to drink above the NIAAA recommendations than are mature women with incomes below $40,000 (22.8 percent vs. 8.2 percent).[61]

Psychoactive Prescription Drugs

Use of psychoactive prescription drugs is most common among white mature women, although some research has suggested that use of certain psychoactive drugs such as diazepam (a benzodiazepine) may be higher among Hispanic women in this age group.[62] Black women report little use of prescription psychoactive drugs of any kind.[63]

Psychoactive drug use may also be most common among women who have higher incomes. CASA's analysis reveals that adult women in households with incomes of $75,000 or more are likelier to report use of psychoactive prescription drugs in the past year than adult women in households with incomes below $15,000 (12.5 percent vs. 8.7 percent).† [64] But because of small sample size, it is impossible to conclude that this difference is statistically significant and to examine income levels solely among mature women who use psychoactive prescription drugs.

Tobacco

Race and ethnicity may play a role in whether mature women smoke. White mature women are more likely than black or Hispanic mature women to smoke (18.4 percent vs. 13.0 percent vs. 9.2 percent), although small sample size makes it impossible to conclude that these differences are statistically significant.[65] Smoking rates after age 59 may also vary by income level. Mature women with household incomes of at least $40,000 are almost twice as likely to smoke as those with incomes below $40,000 (27.6 percent vs. 15.4 percent), although again small sample size makes it impossible to conclude that this difference is statistically significant.[66]

Further research into the risk factors and correlates of substance abuse and addiction among mature women will inform prevention and early detection efforts. In the absence of these efforts, substance abuse and addiction is left to work its will on the mature woman's health, with consequences that can be devastating, deadly and costly.

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* In this study, social consequences included financial problems, belligerence, legal problems, health-related problems, problems with a spouse, problems with other people and job problems.

† Adult women are over age 18.

IV. The Fast and Furious Consequences: Illness, Injury and Death

Substance abuse and addiction is a chronic, relapsing disease, and as the illness and injuries mount, so do the personal, social and economic costs. The end result is usually an extended nursing home stay or premature death. For mature women, the health consequences of abusing alcohol or prescription drugs hit with unusual speed and magnum force.

Women of any age develop alcohol-related illness more quickly than do men, and mature women are most sensitive to the effects of alcohol.[1] While most mature alcoholics suffer some degree of dementia, women do so after fewer years of drinking.[2] Women who drink are more likely than men to develop liver cirrhosis, to develop it at an earlier stage of problem drinking and at lower levels of alcohol consumption.[3] The risk of liver cirrhosis becomes significant for men who drink more than six drinks per day (80 grams of pure alcohol), but that risk becomes significant for women at less than two drinks per day (20 grams of alcohol).[4]

The sensitivity of women to some psychoactive prescription drugs and reduced tolerance that mature women experience may combine to create more rapid and severe adverse consequences of psychoactive drug abuse for mature women. Yet little research has focused on the health and other consequences of prescription drug abuse among mature women.

Since the landmark 1964 U.S. Surgeon General's report on smoking, researchers have made progress in revealing the damage and death that women suffer because of their smoking.[5] While most of the evidence indicates that women who smoke like men die like men who smoke, recent research suggests that women are even *more* vulnerable than men to smoking-related lung

cancer.[6] The mechanism for this vulnerability has not yet been determined.

For mature women, the consequences of substance abuse and addiction can be severe, debilitating and life threatening. Yet if we take action, they can be prevented, and in some cases reversed with treatment.

Alcohol

Early symptoms of alcoholism include depression, irritability, stomach upset, malnutrition, weight loss, memory loss, self-neglect, insomnia and frequent accidents.[7] Alcohol intoxication disrupts sleep and the depression that often accompanies a woman's alcohol abuse saps her energy. Mature adults who have a night cap to help them fall asleep, often trigger middle-of-the-night wake-up call.[8]

As alcoholism progresses, the mature adult may suffer peptic ulcers, gastrointestinal bleeding, urinary incontinence, fatty liver, liver cirrhosis, pancreatitis, hypoglycemia, kidney dysfunction, heart muscle disorders, heart rhythm irregularities, hypertension, certain types of strokes, cancer of the mouth, pharynx, larynx, esophagus and liver, anemia, a loss of interest in life, dementia, and an impaired immune system that can leave them vulnerable to infections such as pneumonia and tuberculosis.[9] These debilitating consequences can rob a woman of her ability to live independently. At least 200,000 mature women who live in nursing homes have current or past alcohol problems.[10]

Cognitive Decline: Untangling the Effects of Age and Alcohol Abuse

Age and illnesses, like Alzheimer's disease, cause cognitive decline without any help from alcohol.[11] Untangling the effect of such decline from the dementia and memory loss caused by alcohol abuse is difficult,[12] but it appears that alcohol abuse plays an independent--and devastating--role in damaging the brains of mature adults.[13]

Alcohol appears to accelerate the effects of aging on the brain, a phenomenon called "premature aging."[14] Distractability, confusion, irritability, delayed reaction time, and impaired verbal learning ability, verbal abstract reasoning, short-term memory, problem-solving and perceptual-motor skills (such as eye-hand coordination) are all possible effects of alcohol abuse.[15] Although these effects may be reversible when younger adults abstain from alcohol, they may endure among mature adults.[16]

Falls and Other Accidents

Daily alcohol use significantly increases the chance of suffering falls, other accidents and consequent injury, particularly for those who drink more than one drink per day on average.[17] Women age 65 and over who have more than a drink a day on average have a higher risk of hip fracture than those who drink lightly or abstain.[18]

In this respect, the impact of drinking on mature women is ambiguous. By interfering with calcium absorption, it contributes to osteoporosis, which reduces the density of bones in older age and makes them brittle.[19] But because alcohol increases estrogen levels, light drinking could also help counteract the osteoporosis that accompanies the decline in estrogen for many women after menopause.[20] More research is necessary to tease out the effects of alcohol on a woman's bones.

Car accidents are another risk for anyone who drinks and drives, and problems some mature drivers experience behind the wheel of a car only grow more pronounced with use of alcohol. Yet with mature adults both less likely to drive and less likely to be heavy drinkers than younger adults, drunk driving is less common among mature adults.[21] In 1996, among drivers age 70 and over who have been involved in fatal car crashes, about one out of 24 (4.2 percent) were intoxicated, compared to one out of four (26.2 percent) drivers ages 25 to 34.[22]

Depression and Suicide

Alcohol abuse magnifies a woman's vulnerability to depression and suicidal thoughts and attempts.[23] In low doses, alcohol can elevate a person's mood.[24] But it has a depressing effect on the central nervous system among those who abuse alcohol or are dependent on it.[25] Women who abuse alcohol or are addicted to it are much more likely than women without such problems to be depressed and attempt suicide.[26]

With many mature women living alone and socially isolated, the combination of depression, alcohol problems and the guilt and shame that often accompany such problems can be a dangerous mix.[27] Among women and men age 65 and over who die, those who died from suicide were found to be nine times more likely to consume at least three drinks a day than those dying of natural causes.[28]

Early Death

For women, alcohol abuse is the silent companion of early death.

At any age, female alcoholics are up to twice as likely to die as male alcoholics in the same age group (who in turn die at rates three times above the general population) and a greater percentage of alcoholic women than men die from alcohol-related accidents, violence and suicide.[29] A follow-up of 100 women (ages 18 to 67) for 11 years after being hospitalized for alcoholism found that a third of them died, primarily of alcohol-related causes such as pancreatitis, hepatic cirrhosis and other liver disorders, violence and accidents.[30] On average, their lives were 15 years shorter than women in the general population.[31] More than 9,000 women--mostly mature women--die each year from liver cirrhosis, accounting for one third of such deaths; alcohol is implicated in most cases.[32]

Does a Drink a Day Keep the Doctor Away?

The consequences of alcohol's impact on the endocrine systems of post-menopausal women are mixed. Alcohol increases the level of estrogen in a woman's body after menopause, which may have both positive and negative effects because estrogen appears to reduce the risk of heart disease while increasing the risk of breast cancer.[33]

Several studies have found that women who have at least a drink a day are more likely to get breast cancer than those who abstain.[34] The risk appears to rise steadily as alcohol consumption increases. For women who have one drink a day, the risk is only nine percent higher than women who do not drink at all.[35] Women who have two to five drinks a day, run a risk of breast cancer 41 percent higher compared to non-drinkers.[36] Researchers hypothesize that an alcohol-induced rise in estrogen, which appears to stimulate breast cancer growth, could be the culprit.[37] But other factors such as nutrition may also be at work.[38]

At the same time, some research indicates that light to moderate drinking (one to two drinks a day) helps to protect men and women--at least those under age 60--against heart disease.[39] Studies looking at women under age 60 found that drinking alcohol appears to protect them against heart disease and ischemic stroke, possibly stemming from an increase in estrogen or high density lipoprotein cholesterol (the so-called good cholesterol) that alcohol may trigger.[40] This protective effect is most pronounced among women over age 49.[41] While little attention has been paid to the benefits of alcohol for women over age 59, this research suggests that light drinking could benefit the health of women in this age group who are at high risk of heart disease.

Yet caution is important in making decisions about drinking based in this research. While light to moderate drinking by men reduces the death rate due to heart disease, the increased risk of liver cirrhosis and breast cancer among women complicates the equation for them.[42] It

is possible that among women age 60 and over, those at high risk of heart disease and at low risk of breast cancer and other alcohol-related diseases such as cirrhosis would benefit from light drinking.[43] Indeed, light to moderate alcohol use may be most beneficial to mature women because they are at the highest risk of heart disease, the leading killer of women age 65 and over.[44] However, changes in dietary and exercise habits may provide the same--or better--protection against heart disease, without any of the inherent risks of alcohol.

Prescription Drugs

Relatively little is known about the health consequences of prescription drug abuse and dependence. Much of the research focuses either on adverse reactions from appropriate use or the effects of inappropriate prescriptions, such as unexpected sedation and accidents from tranquilizers.[45] Psychoactive medications are a leading cause of hospitalizations due to adverse drug reactions, and such reactions account for 17 percent of all geriatric hospital admissions.[46] Benzodiazepines are among the drugs most commonly implicated in adverse reactions.[47]

Among mature women and men, non-compliance is responsible for one out of nine hospital admissions (11.4 percent), twice the rate seen in the general population (5.5 percent).[48] But it is not known how many of these hospital visits stem from underuse (such as fainting spells and consequent injury to women who do not take their blood pressure pills), overuse (such as stupor and even loss of consciousness in women who take too many sleeping pills or narcotics), or use with alcohol.

Cognitive Decline

For mature women, misuse and abuse of psychoactive prescription drugs, and most commonly of the benzodiazepines, cause unwanted drowsiness, sedation, confusion, memory loss and depression.[49] No systematic research has examined the severity of this cognitive decline among psychoactive prescription drugs abusers and to what degree it is reversible upon stopping the abuse.

Efforts to shake dependence on psychoactive drugs can spark particularly severe withdrawal symptoms in the mature adult: confusion, trembling, stomach and muscle cramps, and trouble sleeping.[50] For the mature woman, who may become dependent on benzodiazepines without realizing it, these withdrawal symptoms can be a terrifying surprise.[51] They may emerge quite suddenly, if a physician stops her normal drug routine to prepare for surgery or other medical procedures.[52] The doctor and female patient will learn from her suffering that she is physically dependent.[53]

Falls and Other Accidents

Falls are the leading cause of injuries in mature women, and car crashes are the second leading cause.[54] Inappropriate prescribing and misuse of psychoactive prescription drugs plays a significant role in both falls and crashes, which can destroy a woman's ability to live independently or even end her life.[55] While research has focused on inappropriate prescriptions and misuse rather than abuse of such medications, it is clear that excessive sedation (which can result from either use, misuse or abuse) may cause falls, other accidents and injuries that are debilitating and even deadly.[56]

Even after accounting for alcohol use, anti-anxiety drugs, sedatives (particularly long-acting benzodiazepines), anti-psychotics and sedating anti-depressants double the risk of falls and fractures among the elderly.[57] In a prospective examination of 336 people age 75 and over, 32 percent fell within a year, 24 percent with serious injuries and six percent with fractures.[58] Sedative use--more so even than dementia--was the most important factor in predicting who would fall.[59] After accounting for factors such as dementia and general functional status, use of sedating anti-depressants has been found to increase the risk of hip fracture by 60 percent in adults ages 65 and over.[60]

Among residents in nursing homes, falls are disturbingly frequent, in part because of inappropriate psychoactive drug prescriptions.[61] Of the 1.5 million nursing home residents in the U. S., about half fall each year and 11 percent--some 165,000 individuals--sustain serious injuries as a result.[62]

In addition, use of the tricyclic anti-depressants, which are sedating, and use of diazepam, a long-acting benzodiazepine, more than doubles a mature adult's chance of having a car accident--even after controlling for alcohol use and the frequency with which she or he drives.[63] Use of benzodiazepines increases the risk of a car accident by 50 percent.[64]

The chance that a fall or car accident will lead to a debilitating fracture is particularly high for women, who are more likely to suffer osteoporosis.[65] With osteoporosis, even minor accidents can result in hip, forearm and vertebrae fractures.[66] Among those over 64, women are twice as likely as men to break their hip.[67] Each year, about 180,000 women and 70,000 men age 65 or over break their hip.[68]

The consequences are usually catastrophic. In the year following a hip fracture, one out of four adults age 65 or over will die.[69] Of those who could walk independently before the injury, half lose their ability to do so.[70] One-third of those who were living independently before the injury enter a nursing home.[71] Hip fracture is one of the leading reasons for nursing home entry.[72] Even when falls don't cause hip fractures, they cause injuries that frequently require nursing home care.[73]

Depression and Suicide

Psychoactive drug abuse contributes to depression, and if the problem goes untreated, the depression will worsen.[74] Yet, although we know that women who try to commit suicide frequently try to overdose on benzodiazepines, no studies have assessed the possible increased risk of suicide among women who abuse or are dependent on psychoactive drugs.[75]

Alcohol and Prescription Drugs Don't Mix

Because alcohol is a depressant when used in anything beyond small amounts, it magnifies the effects of tranquilizing or sedating medications.[76] Drowsiness, confusion and delirium from sedatives, fainting after the use of tranquilizers, sedatives or sedating antidepressants--all are examples of the unintended consequences of combining psychoactive prescription drugs with alcohol.[77] Because both alcohol and the benzodiazepines depress the central nervous system, together they can cause heavy sedation, confusion and falls or other accidents.[78]

Painkillers are also a risky partner with alcohol. Even acetaminophen (Tylenol and generic competitors), when taken in excessive doses (more than the recommended maximum) and in combination with alcohol, can cause liver toxicity.[79] Alcoholics may experience such problems at lower doses than do non-alcoholics.[80] Use of the more powerful and addictive narcotic painkillers, such as morphine or codeine, is particularly dangerous when drinking.[81] Alcohol can unexpectedly boost the strong sedating effect of narcotics to the point of stupor and even unconsciousness.[82]

These problems can occur even among those who are not abusing or dependent on psychoactive prescription drugs or alcohol. But they are more likely to occur among those who are. The explosive effect of mixing alcohol and psychoactive drugs means that mature women abuse these substances at the same time are likely to suffer severe health consequences in an aging body that is least able to recover from the consequences.

Tobacco

Because the first generation of women to have smoked heavily began reaching age 60 in the last two decades, the full, deadly force of nicotine addiction is only now showing up.[83] Lung cancer rates for women began rising in the mid-1950s and have not stopped since.[84] From the early 1960s to the mid-1980s, the death rate from lung cancer among female smokers soared

496 percent (from 26 to 155 per 100,000), six times the rate of increase among male smokers (from 187 to 341 per 100,000).[85] In recent years, lung cancer among men has been declining as it continues to rise among women.

In 1980, the U.S. Surgeon General warned, "The first signs of an epidemic of smoking-related disease among women are now appearing," and an "epidemic of chronic obstructive lung disease among women has also begun."[86] In 1986, lung cancer jumped over breast cancer as the leading cause of cancer death among women.[87] In recent years, the lung cancer death rate has been declining among men as it continues to rise among women.[88]

Early Death

Cigarette smoking is the number one preventable cause of death in the U. S. Each year at least 420,000 people die from tobacco-related ailments.[89] Of them, about 142,000 are women: 61,000 die from cardiovascular diseases, 38,000 from lung cancer, 33,000 from respiratory disease, 10,000 from pancreatic, oral, esophageal, laryngeal, urinary and cervical cancers, and 500 from smoking-related fires.[90]

On average, tobacco cuts seven years from the lives of smokers due to the illness caused by tobacco.[91] Between the ages of 65 and 74, women who smoke are more than twice as likely to die as women who do not smoke, due to smoking-related cardiovascular problems and cancers.[92] This increase in the risk of death is highest for those who have been heavy smokers for many years.[93] As more women who have done so pass age 59 in the coming years, the personal tragedies and health care costs incurred by these heavy smokers in the years before death will increase significantly.

Cancer

In women and men of all ages, smoking causes cancer of the lung, larynx, oral cavity and esophagus.[94] Because alcohol also contributes to oral, pharyngeal, laryngeal and esophageal cancer, the combination of tobacco and alcohol appears to produce a savage synergy that hikes the risk of such cancers.[95] Smoking also ups a woman's risk of stomach and cervical cancer by at least 50 percent and can double her risk of ovarian cysts.[96] A woman who smokes at least doubles her risk of getting bladder or pancreatic cancer.[97] Peptic ulcers are more likely to occur in smokers, less likely to heal and more likely to cause death in smokers than in non-smokers.[98]

Heart Disease

The number one killer of women after age 59 is heart disease and smoking is a leading preventable cause of cardiovascular problems.[99] In this age group, one in four women (and one in four men) die because of heart disease.[100] Since 1983, heart disease has killed more women than men each year (478,179 vs. 447,900 in 1991), and smoking accounts for 13 percent of these deaths.[101]

Smoking not only increases a woman's chance of having a heart attack, but of dying from one as well.[102] Among mature women, smokers are about twice as likely to get heart disease as non-smokers.[103] A woman who smokes also increases her risk of contracting chronic bronchitis and emphysema, and at least doubles her risk of having a stroke.[104]

Falls and Fractures

Even if smoking does not kill her, it can sabotage a mature woman's ability to live independently. Smoking has been linked to weak muscles, poor balance and impaired neuromuscular function among women over age 65.[105] One study found the decrease in muscle function comparable to five years of aging.[106]

But most significantly, smoking increases a women's risk of osteoporosis.[107] Women who smoke a pack a day throughout adulthood cut their bone density up to 10 percent by the time they reach menopause.[108] One or more factors may be at work: smoking may inhibit calcium absorption or reduce a woman's estrogen levels, which in turn leads to bone loss and fragility.[109] Osteoporosis may also be more common among smokers because smokers tend to weigh less than non-smokers, and low weight tends to

decrease estrogen levels and increase the risk of hip fracture.[110] Mature women who smoke are more likely to have experienced early menopause, which in turn contributes to osteoporosis.[111]

More research is needed to assess the precise impact of smoking on a women's endocrine system.[112] What we do know is that because of the damage to women's bones, the risk of suffering a fracture of the spine, hip and other sites is more than double among smokers.[113] Estrogen replacement, the most effective therapy known to preserve bone mass, appears to be less effective in women who smoke.[114]

Blindness and Periodontal Disease

Smoking may also contribute to macular degeneration, the leading cause of blindness among elderly Americans.[115] Women who smoke 25 or more cigarettes a day are more than twice (2.4 times) as likely to suffer this eye disease, compared to women who have never smoked.[116] Smoking is also one of the most significant contributors to the development and progression of periodontal disease.[117]

Quitting Smoking After Age 60: Is It Worth It?

The pay-off of smoking cessation by adults under age 65 are well known. Women who quit smoking cut their risk of heart disease in half within a year;[118] after three years, the risk of a heart attack is no greater than for women who have never smoked;[119] and within five years, the smoking-related risk of heart disease disappears altogether.[120] While less attention has focused on whether quitting after age 59 produces significant health improvements, the avoidance of illness and quality of life benefits are worth the effort.[121] She can also lengthen her life; on average, a woman who quits at ages 65 to 69 increases her life expectancy by one year.[122]

Mortality rates decline for adults who quit smoking after age 59.[123] One five-year study of women and men from age 65 to 70 found that former smokers were no more likely to die during the five years from cardiovascular problems, such as heart disease, than those who had never smoked, regardless of when the quitters gave up cigarettes.[124] In contrast, current smokers were twice as likely to die during the five years as those who had never smoked.[125] Among women and men with heart disease, those who smoked cigarettes were up to 70 percent more likely to die by age 61 than those who quit smoking during the year before the study began, and the benefit of quitting did not diminish with age.[126] Quitting also appears to reduce the chances that a mature adult will have a heart attack and die after undergoing an angioplasty, a surgical procedure to open blocked arteries.[127]

Although no studies have focused on mature women, research suggests that mature smokers can cut their risk of having a stroke by kicking the habit. A study of women age 30 to 55 found that within two to four years of quitting smoking, the risk of having a stroke was no higher for former smokers than for those who have never smoked, and this benefit was as true for women age 55 as for those who were age 30.[128]

Quitting smoking after 59 can also reduce--though not eliminate--the smoking-related risk of cancer.[129] In a study of women and men from age 65 to 70, former smokers were much less likely to die from smoking-related cancers than were current smokers.[130] But former smokers were still at higher risk of such cancers than those who had never smoked.[131] Quitting also reduces the risk of macular degeneration, the leading cause of blindness among seniors, although for formerly heavy smoking women (25 or more cigarettes per day), the risk falls only slightly.[132]

In short the mature woman who quits smoking cannot completely undo the damage done by years of smoking, but she can make great strides in restoring her health, avoiding paralyzing disabilities, protecting her ability to live independently and enhancing the quality of her life.

The Financial Costs

CASA's analysis reveals that substance abuse and addiction among mature women will trigger at least $22.3 billion in Medicare, Medicaid and privately paid hospital and nursing home bills in 1998.*

$10.1 billion will stem from inpatient hospital charges (8.2 percent of all inpatient hospital charges for mature women):

- $8.5 billion in Medicare charges;
- $338 million in Medicaid charges;
- $1.3 billion in bills to private insurers and individuals.

$12.2 billion will stem from nursing home costs (20 percent of all nursing home costs for mature women):

- $1.4 billion in Medicare costs;
- $5.8 billion in Medicaid costs;
- $5.0 billion in spending by private insurers and individuals.

Tobacco is the leading cause of these charges. Ninety-one percent of all substance abuse related inpatient hospital charges for mature women are the result of cigarette smoking; six percent stem from alcohol use and abuse, two percent are the consequence of psychoactive prescription drug problems and one percent are the result of illicit drug use and abuse. More than two-thirds (67.5 percent) of nursing homes costs for mature women are the consequences of tobacco-related illness and injury; the remainder (32.5 percent) is the result of alcohol-related illness and injury.

The hidden nature of the problem is reflected in the small number of charges for treatment of a diagnosed substance abuse problem. By far, Medicare spends most of its money to treat the consequences of substance abuse such as cancer, heart disease and hip fractures, rather than to address the underlying disorder. In acute care hospitals, 98.0 percent ($9.8 billion) is spent to treat the consequences of substance abuse--often without any recognition of the underlying substance abuse disorder; only 2.0 percent is spent to treat the substance abuse problem itself ($205 million).

The $22.3 billion does not include the costs of outpatient hospital visits, physician office visits and home health care for mature women as a result of substance abuse. Epidemiological research is needed to identify these costs precisely. Taking the ratio of mature women's substance abuse related hospital inpatient bills to all hospital inpatient bills regardless of age or sex, and applying it to all spending on physician services and home health care, CASA estimates that the cost of such services and care adds roughly $7.7 billion, bringing the total health care cost of substance abuse among mature women to some $30 billion.[133]

Even this $30 billion estimate is low since CASA's analysis relies to a great extent on the accuracy of physician diagnoses. CASA's survey and several studies find that physicians fail to recognize many cases of substance abuse disorders.[134]

Hospital Admissions Due to Substance Abuse

Of all Medicare hospital admissions for mature women, 8.3 percent are attributable to substance abuse. This rate is more than triple the 2.4 percent rate of Medicare admissions for non-substance abuse related heart attacks among mature women.

The difference is even sharper for Medicaid admissions. Of all Medicaid hospital admissions for mature women, 9.1 percent are attributable to substance abuse. This rate is more than four times the rate of Medicaid admissions for non-substance abuse related heart attacks among mature women, which is 2.1 percent.

These costs will rise dramatically as Baby Boomers reach age 60. At current rates of use and abuse, the annual health care cost of substance abuse among mature women will top $100 billion in 20 years.[135]

* A description of the methodology for the cost analysis appears in Appendix E.

The Cost and Benefits of Treatment

An investment in treatment can be very cost effective. The average charge for a hospital stay by a mature women with a substance abuse related problem is $15,700.[136] The average cost of treating the substance abuse would be about $1,800.[137] If just one out of eight treatment episodes works well enough to reduce the health consequences of substance abuse and prevent a single inpatient hospital stay, then the treatment has paid for itself. And this does not even account for the human benefits in terms of women who have reclaimed their lives and families that have regained their grandmothers, mothers and wives.

V. The Physician Survey

For the isolated mature woman, a visit to the doctor may be her best shot at professional help for a problem that is quietly destroying her health and life. As a result, CASA decided to examine physicians' prevention, screening and diagnostic practices regarding substance abuse, physicians' knowledge and attitudes about substance abuse among mature women, and barriers to appropriate screening and diagnosis.

CASA, with Louis Harris and Associates, conducted a survey by phone of a nationally representative sample of 400 practicing, office-based general and family practice doctors, internists, emergency medicine physicians and obstetricians/gynecologists. CASA focused on primary care physicians for three reasons:

- Most women get their health care from such physicians.[1]
- Mature women are most likely to seek help from a primary care physician for mental health concerns, occasions which offer opportunities to spot warning signs of substance abuse and intervene early.[2]
- Primary care doctors with ongoing contacts and trusting relationships with patients are best suited to elicit disclosures about sensitive issues like substance abuse and addiction.[3]

To assure that the physicians surveyed had sufficient experience with mature women, the survey was limited to doctors for whom mature women comprised at least 10 percent of the physician's practice.* The interviews occurred from October 20 through December 2, 1997. The results of the survey are deeply troubling.

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* The survey's margin of error is +/- three to five percent. The questionnaire and a description of the methodology appear in Appendices B and C.

Screening and Diagnostic Practices

To assess the extent to which physicians are sensitive to signs of substance abuse among mature women, the survey began by posing a hypothetical case of a 68-year old female patient, which CASA designed in consultation with an expert panel of seven physicians.* The hypothetical patient had an array of complaints: loss of energy, weight loss, irritability, chronic heartburn and trouble sleeping. These are typical early indicators of alcohol abuse or addiction, and sometimes of prescription drug abuse as well.[4] CASA's analysis of the research on substance abuse and addiction among mature women, and the physicians that CASA consulted indicated that these symptoms should sound a loud alarm to a doctor that substance abuse is a leading possible diagnosis.[5]

Top 20 Diagnoses by Physicians for the Hypothetical Mature Woman

Percent of physicians who cite the diagnosis. Numbers add to more than 100 percent because doctors suggested five possible diagnoses.

Rank	Diagnosis	Percent
1	Depression	82
2	Hypothyroidism/thyroid problems	54
3	Cancer	54
4	Gastro-esophageal reflux disorder	34
5	Ulcer/peptic ulcer	29
6	Anemia	23
7	Anxiety/stress/psychological problems (other than depression)	20
8	Menopausal symptoms	19
9	Heart disease	16
10	Diabetes	13
11	Gastritis/gastro-intestinal problems	12
12	Sleep disorder/sleep apnea	4
13	Hiatal hernia	4
14	Chronic fatigue syndrome	3
15	Alcohol abuse	1
16	Hypertension/high blood pressure	1
17	Prescription medication misuse or abuse	1
18	Over-the-counter medication misuse or abuse	1
19	Alzheimers	1
20	Eating disorder	1

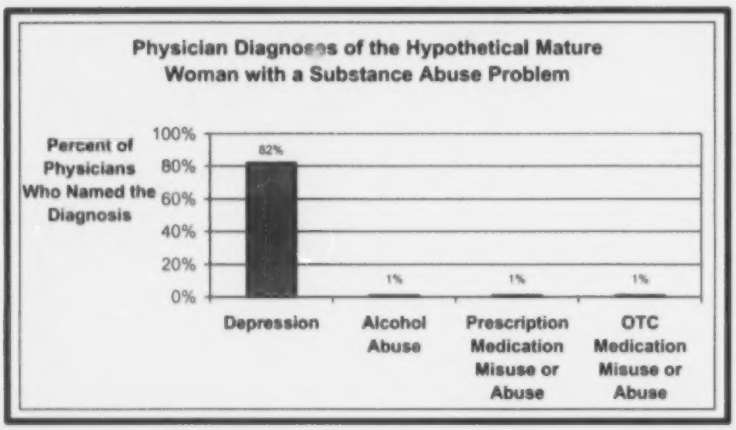
Physicians were asked to give the top five diagnoses that they would consider for the patient. Only one percent of physicians suggested alcohol abuse as one of the top five possible diagnoses; one percent considered prescription drug abuse a likely diagnosis; and one percent suggested abuse of over-the-counter (OTC) medications. *Taking account of overlap in these responses, only one percent of physicians considered substance abuse as a leading diagnosis.*

Four out of five (82 percent) suggested depression, making it the leading diagnosis. A significant number (20 percent) suggested anxiety, stress or psychological problems other than depression. These are not unreasonable diagnoses since many of the symptoms could indicate depression or anxiety disorders. The good news is that physicians are looking for signs of depression among their mature female patients and may initiate effective treatment for them. The bad news is that so few considered substance abuse. Some of the drugs frequently prescribed for depression or anxiety--anti-anxiety drugs, sedatives and the anti-depressant medications that are sedating--when taken by a patient who is abusing or dependent on alcohol, are sure to complicate and exacerbate the addiction.[6] Physician failure to spot their alcoholic patients could in this way condemn them to more severe and destructive levels of addiction.

The survey interviewers randomly varied the age and sex of the patient to learn whether these two factors would affect the likelihood that physicians would think about substance abuse.

* The names and affiliations of these physicians appear in Appendix C.

For roughly a third of the physicians, the patient was a 68 year-old woman; for another third, the patient was a 33 year-old woman; and for another third the patient was a 68 year-old man.



These factors did not significantly affect the likelihood that the physician would see substance abuse as a possibility. While only one percent mentioned substance abuse as a possible diagnosis for the 68 year-old woman, two percent mentioned it for the 33-year-old woman and four percent did so for the 68 year-old man. Although it appears that physicians may be least likely to consider substance abuse for mature women, these differences are not statistically significant.

Diagnoses varied little whatever the sex or medical specialty of the doctors, whether they had or did not have recent substance abuse training, whether they had integrated this training into their daily practice and whether they graduated medical school before or after 1980. After 1980, many medical schools began offering some substance abuse curricula

To investigate these symptoms further, most physicians (74 percent) said that they would conduct a blood test. Others suggested a thyroid test (33 percent), general medical history (19 percent), physical exam (19 percent), a gastro-intestinal exam (18 percent) and chest x-ray (17 percent). These tests help physicians rule out serious diagnoses such as cancer and thyroid problems, and the blood test or properly conducted medical history could provide evidence of substance abuse.[7] But by themselves, these tests are unlikely to alert a physician who does not even have substance abuse on the diagnostic radar screen.[8]

As a routine screening practice for risky behaviors such as substance use, most physicians (88 percent) ask patients to fill out an assessment form at least once. Usually these forms ask patients about their medical history and health-related behaviors, including use of alcohol, tobacco, prescription and OTC drugs and sometimes illicit drugs.[9] Some also ask about any family history of drug or alcohol problems, a common marker of current substance abuse problems. By themselves, the answers on these forms may help physicians defend medical malpractice claims, but they are unlikely to garner revealing information from someone who wants to hide a problem as most alcoholic and substance abusers do.[10]

Health Behaviors Which Physicians Ask Patients to Report on Assessment Forms

(Percent of physicians who ask patients to report the following behaviors)

- *Alcohol use: 92 percent*
- *Tobacco use: 94 percent*
- *Prescription drug use: 94 percent*
- *OTC medication use: 78 percent*
- *Illegal drug use: 67 percent*

Few physicians use patient assessment forms after the first visit. Almost half of physicians (41 percent) ask patients to complete assessment forms solely at the first visit and one out of nine (12 percent) never do so. Only one in 17 (six

percent) ask their patients to complete an assessment at every visit.

Most physicians (69 percent) do not use any formal substance abuse screening tools to help diagnose their mature female patients. Among those who do, the most common choice is the so-called CAGE questionnaire, which involves four brief questions for which at least one positive answer may indicate an alcohol problem. One out of five (22 percent) of all physicians report using the CAGE. One out of 17 (six percent) use the MAST (Michigan Alcohol Screening Test). One out of 33 (three percent) use the T-ACE or the TWEAK, modified versions of the CAGE that have been tailored for women.*

The CAGE Questionnaire

- *Have you ever felt you ought to **C**ut down on your drinking?*
- *Have people **A**nnoyed you by criticizing your drinking?*
- *Have you ever felt badly or **G**uilty about your drinking?*
- *Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (**E**ye opener)?*

For mature adults, an answer of "yes" to one or more questions indicates the need for further assessment.[11]

Recent medical school graduates are more likely than those who graduated before 1980 to use a screening tool. Almost half of recent graduates (45 percent) use at least one, compared to 28 percent of older graduates; and a third of recent graduates (33 percent) use CAGE, more than double the percentage of older graduates who do so (14 percent). But based on responses to the vignette, whether physicians report using screening tools does not significantly affect the likelihood that they will identify a mature woman with typical early symptoms of alcohol abuse or addiction as having a substance abuse problem.

What's Going On?

CASA could not identify the characteristics of physicians who look for substance abuse among mature women because there were so few of them. The survey findings do point to several troubling conclusions.

Doctors fail to put together the constellation of symptoms. Many physicians appear to be focusing on individual symptoms that point to depression, insomnia or gastro-intestinal problems, rather than considering them together and recognizing that the combination indicates the possibility of substance abuse. This illustrates the difficulty of making the substance abuse diagnosis, particularly in its early stages, when the most severe consequences such as falls and hip fractures or liver cirrhosis have not yet emerged. At least until then, it is truly a hidden problem that defies quick and easy diagnosis.

Doctors may lack diagnostic skills that are critical for early intervention. In addition to basic diagnostic skills, a self-report patient assessment form at the first visit appears to be the sole method used by most physicians to search for evidence of substance abuse. Alcoholics and alcohol abusers are not likely to reveal themselves in such self-reports. Few physicians use formal substance abuse screening tools to help them make the diagnosis. This makes having good diagnostic skills critical, and the survey findings suggest that for most physicians, they are insufficient to catch the problem early.

Doctors may be violating the rule, "First do no harm." The fact that most physicians considered depression as a possible diagnosis is understandable because some of the symptoms could indicate this problem. But physicians do not appear to recognize how often depression coincides with substance abuse, particularly in women, much less act on that important fact. This failure to think of substance abuse even as a possibility is alarming because in practice, if further investigation bolsters the depression diagnosis, many physicians prescribe an anti-depressant, tranquilizer or sedative for the

* These screening tools appear in Appendix E.

patient. The tranquilizer and sedatives could be dangerous in the hands of an alcoholic. The same would be true if the physician chooses a sedating anti-depressant.

Doctors are diagnosing what they know best, which does not include substance abuse. Physicians may be diagnosing the illnesses that they expect to see and know how to treat--depression, cancer or gastrointestinal problems--rather than the substance abuse and addiction, for which they may have little training and confidence in treating. Physicians might be unlikely to think of substance abuse for a mature female patient because they too quickly attribute her complaints to age-related diagnoses or because they have a stereotypical image of what an alcoholic or addict should look like. Grandma as an alcoholic or prescription drug abuser does not fit the mold.[12]

Other research strongly suggests that many physicians *never* recognize the substance abuse diagnosis, allowing the disease to progress even further and pushing it into the highly expensive realm of specialized physicians and inpatient care.[13] If physicians start by diagnosing depression and prescribing tranquilizing or sedating prescription drugs, the costs of this misdiagnosis mount in terms of increasingly destructive abuse of alcohol and psychoactive drugs, and the injuries and even deaths that can result.

In sum, the findings suggest two conclusions: hardly any physicians are looking for the early symptoms of substance abuse and addiction among their patients, which allows the problem to go untreated and grow more costly; and most of them are considering diagnoses that might lead to the prescription of psychoactive drugs that could be devastating to the alcoholic patient.

The 400 physicians in the survey's national sample represent 250,000 physicians nationwide who provide primary health care to some 19.9 million mature female patients.* [14] By physician's own estimates, seven percent of these women--1.4 million mature women--may be alcohol abusers. But CASA's survey and other research suggest that they miss this diagnosis in its early stages, when intervention has the greatest potential to prevent needless human suffering and health care expense. The result is that roughly 1.4 million women will suffer the debilitating, even deadly and largely avoidable consequences of substance abuse and addiction.

The Great Disconnect Between Knowledge and Actions

Despite the fact that physicians do not look carefully for the early signs of substance abuse, they consider it a major health problem among mature women. Nearly all (81 percent) agree with the statement, "Problem drinking among older women is a significant health problem." This suggests an enormous disconnect between what they know and what they do.

Female physicians are more likely than male physicians to agree with this statement (91 percent vs. 79 percent); and recent medical school graduates are more likely than those who graduated before 1980 to support it (86 percent vs. 77 percent). Physicians who say they use their substance abuse training in their daily practice to a great extent are twice as likely as those who say they use it very little or not at all to "agree strongly" with the statement (50 percent vs. 27 percent).

What is Substance Abuse Training?

Understanding what physicians mean by "training" is an important step toward identifying opportunities for improving their detection of substance abuse problems among mature women as well as other adults. Physicians generally receive training in substance abuse in at least one of four forums: medical school, residency programs, ongoing professional education programs or by reading the scientific literature on their own initiative. Physicians who attend ongoing professional education programs, which can be from one hour to a few days in length, receive Continuing Medical Education (CME) credits, which are

* Based on the fact that 77.7 percent of all mature women report having a regular physician.

required by professional boards that periodically re-certify physicians.

Nearly every physician (96 percent) reports having received at least some substance abuse training during their medical careers. But this is too often in as little as one or a few hours. More than a fourth received their training during medical school or their residency (28 percent) and almost two-thirds (64 percent) received it as part of their ongoing professional education. When asked, "How long was the most recent substance abuse training" they received, most physicians (67 percent) reported that the training took no more than a day.

Physicians who graduated from medical school since 1980 are more than four times as likely as physicians who graduated before 1980 to have received some substance abuse training during medical school or residency programs, reflecting the introduction of at least an hour of substance abuse curricula at many medical school since 1980 (50 percent vs. 12 percent).[15]

Most of the physicians who have received substance abuse training (76 percent) say they have integrated it at least somewhat into their daily practice. One-fourth (24 percent) say they use their training very little or not at all. For some physicians, "integrating" their training may mean little more than using patient assessment forms that ask about substance use.

The fact that so many physicians report having received some substance abuse training, and yet do not look carefully for it in practice raises concerns about the content of training and its impact. It is clear that in its current form, substance abuse training for physicians is grossly inadequate in preparing physicians for the clinical challenge of detecting the early signs of substance abuse and addiction.

Physician Reports of the Percentage of Mature Female Patients Who:

- *Abuse alcohol: 7 percent*
- *Abuse prescription drugs: 11 percent*
- *Abuse OTC medications: 11 percent*
- *Abuse both alcohol and medications: 7 percent*
- *Abuse illicit drugs: 2 percent*
- *Smoke cigarettes: 25 percent*

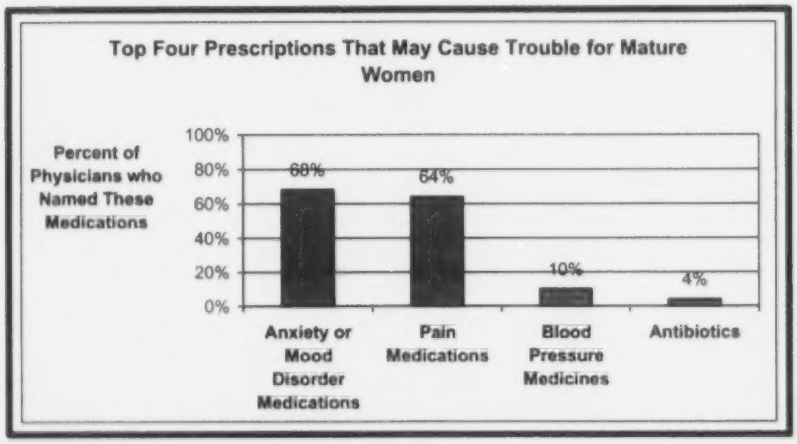
Extent and Nature of the Problem

While physicians miss many diagnoses of substance abuse and addiction among mature women, they see it as a widespread problem. Physicians suspect that one in 14 (seven percent) of their mature female patients have problems with alcohol abuse; one in nine (11 percent) have problems with prescription drug abuse; and one in nine (11 percent) have problems with OTC medication abuse. These numbers cannot be added because most mature women who abuse alcohol also abuse prescription and/or over-the counter drugs.[16]

The fact that physicians report such significant rates of the problem, and yet fail to detect the symptoms during the early stages of the disease suggests that physicians ultimately recognize the problem, but not until its most severe consequences have emerged. This is costly both in terms of human lives and health care costs. It may also signal a reluctance by doctors to see the early signs of a problem for which they are poorly trained. They may believe their efforts to treat it would involve challenging interactions with patients that would ultimately prove ineffective.

The Most Common Sources of Trouble

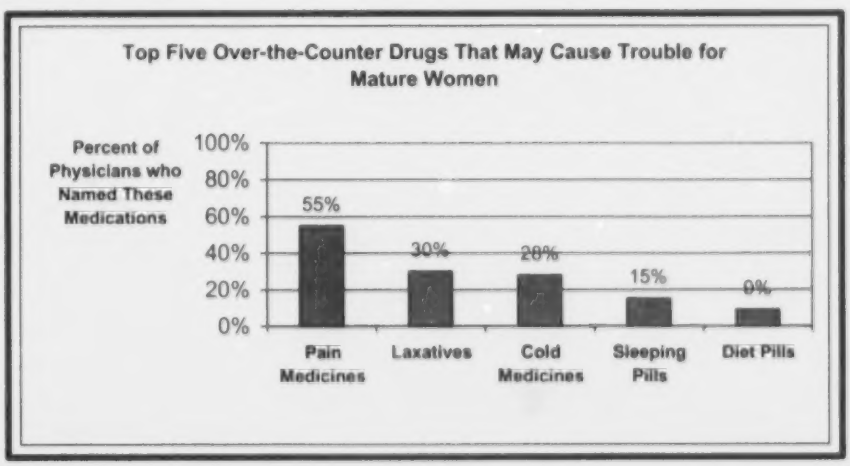
When physicians were asked what types of prescription medications cause the greatest problems for mature women, the top two choices were psychoactive drugs commonly taken by mature women for anxiety or mood disorders (anti-anxiety, sedative/hypnotic and anti-depressant medications: 68 percent) or pain (analgesics, non-steroid anti-inflammatory



medicines and narcotics) (64 percent). Half of the physicians who cited the mood-disorder medications specifically named the benzodiazepines. Over-use or use with alcohol are the usual sources of trouble with these drugs, with the exception of the anti-depressants.[17] Some mature women who are depressed take non-sedating anti-depressants for too short a time because they stop taking them as soon as they begin to feel better.[18] Third and fourth in line were blood pressure medicines and antibiotics. Problems related to these drugs among mature adults generally stem from underuse.[19] The fact that physicians were most likely to cite medications associated with overuse as the leading sources of trouble for mature women suggests that the extent of overuse is greater than commonly believed.

Pain medications, such as acetaminophen and ibuprofen, come out at the top of the list of OTC medicines that may cause problems for mature women; more than half (55 percent) of physicians cited them.[20] Problems with acetaminophen, which is generally considered safe, usually result from using it in combination with alcohol.[21] In addition, almost a third of physicians (30 percent) cited laxatives; more than a fourth (28 percent), cold medicines; one out of seven (15 percent), sleeping pills; and one out of 10 (nine percent), diet pills. For these latter medications, problems are likely to stem from overuse; for all but laxatives, they are potentially psychoactive.

Physicians most commonly cited anti-anxiety, sedative or hypnotic and anti-depressant medications as medications which most commonly cause the greatest problems for mature women when combined with alcohol (68 percent). About half of these physicians (30 percent) named the benzodiazepines. Pain medications, whether OTC (29 percent) or by prescription (25 percent), were next in line, followed by OTC sleeping pills (12 percent).



The Costly Consequences

Physicians are well aware of the severe consequences of alcohol and prescription drug abuse by mature women. From liver damage to memory loss, doctors recognize the many ways that substance abuse and addiction can destroy a woman's health.

But while physicians accurately name the consequences of substance abuse, they are unlikely to diagnose substance abuse when a patient presents with symptoms of these consequences. Several typical symptoms of the mature woman with an alcohol problem--irritability, loss of energy, chronic heartburn and weight loss--point to three common consequences of alcohol abuse named by physicians: 1) depression, anxiety or psychological problems, 2) gastro-intestinal problems and 3) malnutrition. Another symptom--trouble sleeping--could signal either depression or insomnia--also consequences of alcohol abuse that many physicians named. Yet even as they recite the consequences of alcohol abuse in mature women, only one percent of physicians considered alcohol abuse as a diagnosis for the mature woman with the corresponding symptoms.

Top 14 Consequences of Alcohol Abuse By Mature Women

Percent of physicians who reported these consequences. Numbers add to more than 100 percent because doctors named more than one consequence.

Rank	*Diagnosis*	*Percent*
1	*Liver problems*	*44*
2	*Social isolation/interpersonal problems*	*26*
3	*Depression/anxiety/ psychological problems*	*23*
4	*Gastritis/gastrointestinal problems*	*21*
5	*Falls/injuries*	*19*
6	*Malnutrition*	*16*
7	*Mental deterioration*	*7*
8	*Hypertension/high blood pressure*	*7*
9	*Ulcer/peptic ulcer*	*6*
10	*Problems driving motor vehicle*	*5*
11	*Heart problems*	*5*
12	*Improper use of medication*	*4*
13	*Insomnia/sleep disorders*	*3*
14	*Memory loss*	*3*

If Physicians Know the Consequences, Why Do They Miss the Diagnosis?

Several factors may be at work here. As suggested earlier, because physicians appear to focus on one or another single symptom that might point, for example, to depression or gastrointestinal problems, they fail to look at the entire constellation of symptoms that would suggest substance abuse. While doctors know that alcohol abuse can cause depression and gastrointestinal problems, they tend to focus on one or another of these problems and don't think "substance abuse." Physicians may tend to diagnose illnesses that they expect to see and know how to treat, rather than the problem of substance abuse and addiction which can be more difficult to detect and which is not treated in traditional medical ways.

In addition, physicians may have difficulty integrating what little substance abuse training they have received into their daily routine. What they know and how they act may differ because of other preconceived notions and barriers.

Lack of Confidence in Substance Abuse Treatment

Ninety percent of physicians strongly agree that "older adults will benefit significantly from stopping problem drinking. Similariy, 86 percent strongly agree that "older adults will benefit significantly from quitting smoking."

However, these convictions are not matched by a corresponding confidence in the effectiveness of treatment. Only three of five (62 percent) believe that substance abuse treatment is somewhat or very effective for mature women. (The survey did not ask about the effectiveness of smoking

cessation programs among mature adults.) This lack of confidence of treatment discourages some physicians from addressing the problem.

Physicians may feel frustrated seeing so many individuals try unsuccessfully to quit smoking or stop abusing alcohol and drugs.[22] Some may consider addiction a hopeless problem--or one not worth the effort--in mature adults with a poor social and medical prognosis.[23] This is puzzling because they routinely provide treatments for other conditions, such as certain forms of cancer and advanced heart disease, where the success rates of treatment are lower, and for chronic conditions, such as hypertension, diabetes and asthma, which require continuing care and have no cure.

Beliefs about the effectiveness of treatment for mature women did not differ significantly among physicians of different gender or year of graduation from medical school. But physicians who say they have integrated substance abuse training into their practice are much likelier than those who say they haven't to voice confidence in treatment (67 percent vs. 48 percent).

Physicians have more confidence in the effectiveness of treatment for mature women than for mature men. While 62 percent believe it is effective for mature women, only 50 percent said the same about treatment for mature men. But some believe that the effectiveness of treatment declines with age: more physicians--three out of four (74 percent)--believe that treatment is effective for women below age 60.

Barriers to Diagnosis and Treatment

Physicians named the five most significant barriers to effective substance abuse screening for mature patients:

1) Physician lack of time (37 percent);

2) Patient denial (37 percent);

3) Physician lack of knowledge (26 percent);

4) Patient discomfort discussing the problem (25 percent);

5) Physician discomfort discussing the problem (18 percent).

Physician-Related Barriers to Screening

Percent of physicians who named these physician-related barriers. Numbers add to more than 100 percent because each doctor named five barriers.

Barrier	*Percent*
Lack of time	*37*
Lack of knowledge	*26*
Discomfort discussing problem	*18*
Feelings of denial	*6*
Belief that discussing abuse undermines trust	*3*
Feelings of stigma	*2*
Belief that intervention is futile	*1*
Indifference	*1*
Lack of screening procedures	*1*

Patient-Related Barriers to Screening

Percent of physician who named these patient-related barriers. Numbers add to more than 100 percent because each doctor named five barriers.

Barrier	*Percent*
Feelings of denial	*37*
Discomfort discussing problem	*25*
Lack of knowledge	*9*
Belief that discussing abuse undermines trust	*9*
Feelings of stigma	*6*
Lack of time	*6*
Lack of honesty	*4*
Financial	*3*
Lack of cooperation	*2*
Belief that intervention is futile	*1*
Indifference	*1*

These responses point to two challenges that must be addressed before physician practice will improve: 1) lack of time and 2) lack of training

in knowledge, communication and interview skills, and attitudes.

Time is Money

The fact that lack of time is the most frequently cited physician-related barrier to screening for substance abuse is a clarion call to Medicare, other health insurers and managed care organizations that they bear a heavy share of responsibility for the early detection of substance abuse by failing to pay physicians to talk to patients and to identify and address the problem. To fulfill this goal, they must not only cover the costs of treatment, they must also reimburse physicians for time spent on prevention and interventions to address substance abuse problems.[24] We must pay physicians to talk to patients, not just to treat them with needles, pills and surgery.[25]

Percentage of Mature Adult Patients Enrolled in Managed Care Plans, by Physician Specialty (1997)

- *Obstetrics/gynecology: 62 percent*
- *Emergency medicine: 43 percent*
- *Family practice: 42 percent*
- *Internal medicine: 39 percent*
- *General practice: 29 percent*

Many primary care physicians are overwhelmed by the growing responsibilities and time demands of being a gatekeeper for a patient's health care needs.[26] The average patient visit in a primary care office is about 19 minutes,[27] which barely allows for even a brief discussion about sensitive issues of drinking habits, drug use and smoking, especially when the appointment has been scheduled to address other concerns.

The growth in managed care plans aggravates these time pressures. Though Medicare is one of the last insurers of fee-for-service care, managed care plans already cover a substantial number of mature adults. In 1997, 13 percent of all Medicare beneficiaries (five million individuals) were enrolled in managed care plans.[28] Most of them involve capitated payment plans in which the Health Care Financing Administration pays predetermined amounts of money to a health care organization to provide all the health care that a Medicare recipient needs.[29] In the CASA survey, physicians report that almost half of their mature adult patients (44 percent) are enrolled in Medicare and private managed care plans.*

As managed care organizations cut coverage for substance abuse treatment, physicians are on the front lines of a battle against substance abuse with dwindling reinforcements. In many managed care networks, physicians are pressed to minimize their attention to substance abuse by providing only a referral for assessment and treatment.[30] Anything else offered by the physician, such as counseling to encourage entry into treatment or to stop smoking or reduce risky drinking or excessive psychoactive prescription drug use, may be considered "behavioral health treatment," which usually requires prior authorization from the managed care company.[31] This pressure to save time and minimize unreimbursed costs deters physicians from paying anything but the briefest attention to the problem--and only when it has reached its most severe, costly and obvious stages.[32]

This outcome not only fails mature female patients, but it is not financially sensible. Accumulating evidence indicates that brief physician interventions to encourage smoking cessation and the reduction of risky drinking are cost effective because they help prevent falls, injuries and illness that produce hospital bills.[33]

Many physicians who try to address substance abuse among their older patients say they are thwarted by the review processes common in such settings. Of physicians who have tried to refer older patients to substance abuse counseling or treatment, one-fifth (20 percent) say their referrals were denied, which means that a

* Patients in "managed care plans" are in Health Maintenance Organizations, Preferred Provider Organizations, those for whom physicians receive capitated payments and those for whom physicians receive discounted fees-for-service.

managed care organization or insurance company refused to cover the costs of the referral.

Training is Critical

Many primary care physicians report feeling incompetent to provide counseling regarding a drinking problem and even smoking cessation, and may avoid doing so as a result.[34] In fact, most physicians have not been adequately trained in addiction medicine.[35]

In the past two decades, the number of medical schools, residency programs and continuing medical education programs that teach about substance abuse and addiction has significantly increased.[36] Today most medical schools and residency programs offer some substance abuse education with the emphasis usually on treatment rather than prevention.[37] Yet no medical school accreditation processes and non-psychiatric specialty certification board requires training in substance abuse and addiction.[38]

Knowledge

The CASA survey reveals an important knowledge gap that adds to the difficulty of making the substance abuse diagnosis. When asked to define what constitutes problem drinking, physicians do not differentiate between mature and younger women, or between men and women. The average number of drinks per day that physicians said would constitute problem drinking were virtually equal for patients who are women age 60 and over (2.3 drinks), men age 60 and over (2.4 drinks), women age 40 to 60 (2.4 drinks) and men age 40 to 60 (2.5 drinks).

This suggests that physicians do not understand or take into account that tolerance for alcohol falls with age and that women on average have a lower tolerance for alcohol than do men. As a result, some physicians have a threshold of alcohol consumption in their mind that they consider problem drinking, but which leads them to miss many cases of the alcohol abuse or addiction. This is especially troubling for mature women because they experience problems related to alcohol and psychoactive prescription drugs more quickly and get addicted faster and at smaller amounts than any other group.

Physician education should also include training on how to advise and counsel patients who need to quit smoking.[39] Many medical schools do not train students in smoking cessation, and postgraduate training in this area is rare.[40] Training needs to provide not only information regarding effective smoking cessation but an argument for why it is a standard of good medical practice.[41]

Skills

Knowledge is not enough.[42] It is striking that so many physicians (25 percent) cite their patients' and their own discomfort discussing substance abuse as a barrier to screening. Unless physicians gain skills in how to tackle this emotionally explosive issue, they will understandably avoid it. Physicians need to know how to talk to patients about the problem, elicit accurate information from patients, and communicate in a firm and effective way in order to break through denial, create a safe and supportive environment that allows patients to talk about sensitive issues such as drinking and drug abuse and motivate patients to deal with their problems.[43]

The denial and stigma that mature women feel about their alcohol and drug problems raises this barrier. Unlike most physician encounters, during which patients have a strong interest in providing the information that would lead to an accurate diagnosis and treatment of their disorders, most patients with substance abuse problems do their best to conceal and deny such information.

Using the premise that experience is more powerful than persuasion, some medical schools and treatment facilities are teaming up to improve physician skills by training them through first-hand clinical experience. Such efforts to provide medical students with one-on-one contact with addicts in clinical and treatment settings and active participation in clinical problem solving have shown signs of success.[44]

Attitudes

Some physicians harbor attitudes that discourage them from looking for substance abuse problems.[45] It is often difficult to deal with and treat patients who are frequently intoxicated, and the physician's frustration may lead to pessimism and a reluctance to spend time on a problem they consider hopeless.[46] Other doctors may believe that substance abuse is a social problem rooted in moral flaws, not a disease that responds to treatment.[47] Even if a physician recognizes the problem and refers the patient to treatment, doing so in a pessimistic or disparaging way may discourage the patient and contribute to treatment failure.[48]

The CASA survey suggests that attitudes about old age and drinking also have an influence. Despite the damage that alcohol abuse does to mature women, physicians--as well as family and friends--often overlook drinking problems because they feel that drinking is one of the few pleasures left "for the old lady." Regardless of gender, more than one-third of physicians (37 percent) believe that "Many physicians fail to address problem drinking among older patients because they believe drinking is one of the last few pleasures left for the elderly."

In short, the barriers cited by physicians clearly indicate that lack of physician knowledge is an important factor, but addressing this gap alone will not solve the problem. They also need skills on how to break through their personal and patient denial and how to elicit accurate information from patients and communicate effectively about such a discomforting and embarrassing problem. Physicians may be harboring negative attitudes about substance abusers that make physicians reluctant to deal with these individuals. And they may lack the time and financial incentives to take on such a challenging issue. An effective response to the fact that so many physicians miss opportunities to detect substance abuse among mature women must address each of these barriers.

VI. Taking Responsibility: Prevention, Detection and Treatment

Preventing substance abuse and addiction among mature women, detecting it in its earliest stages and getting such women into effective treatment so that they can live longer, independently and in good health, requires a revolution in physician, patient and social attitudes and action. Women, their families, friends and caregivers; physicians, nurses, pharmacists, home health aides; social workers and mental health counselors; clergy; those who work in senior centers and those who deliver meals and other services to home-bound mature adults; government researchers and public health officers--all have a role to play in preventing, detecting and treating substance abuse and addiction among mature women.

When families, friends and women themselves fail to prevent, recognize and address the problem, the greatest responsibility rests on the shoulders of physicians. As one of the few and most trusted professionals in frequent contact with mature women, physicians have a unique opportunity to intervene successfully.

Prevention Works

To be effective, prevention strategies must tackle four challenges: educate mature women, their families, friends and caregivers about the risk of alcohol and prescription drug abuse so that they can identify the earliest hints of trouble and address them; educate physicians about the risk of alcohol and prescription drug abuse so they do not inadvertently contribute to the onset of substance abuse problems and know how to intervene to prevent them; use the expertise and opportunities of pharmacists, pharmacy benefit management firms and nursing homes to eliminate inappropriate prescriptions; establish community-based social and mental health

services that counsel, support and nurture mature women who might be at risk of substance abuse and addiction; and motivate all of the above to act on the health truths they learn and opportunities they have.

The Mature Women: Her Own Best Caretaker

Every woman should have the information she needs to understand her growing vulnerability to alcohol as she ages; the risk factors of alcoholism that emerges later in life; the dangers of overusing psychoactive prescription drugs and smoking cigarettes; and perils of combining psychoactive drugs with alcohol.

Mature women should appreciate the dangers of "late-onset" alcoholism and psychoactive drug abuse. They may believe that alcoholism is a danger that they left behind with their youth, or they may believe that have never been and will never be susceptible to alcohol abuse. But the challenges of the last decades of life can combine with personal risk factors to make them vulnerable to drinking and prescription drug abuse and addiction and the benefits of quitting.

A mature woman should know that heavy alcohol use will not lift her spirits--but rather depress them; it will not bring on sleep--but rather disrupt it; and it is not one of the few remaining pleasures of retirement. Indeed, it is anything but fun. If she gets into trouble with alcohol or drugs, she should realize that treatment works if she makes a commitment to getting better. If she smokes, she should understand the benefits of quitting at or after age 60, and the likely consequences if she does not. Women who are still smokers later in life significantly underestimate their risk of dying prematurely as a result of their nicotine addiction.[1]

Family and Friends

Prevention begins at home. Families and friends across the country struggle to create safe, decent housing arrangements for mature adults in failing health, and lead the charge for community-based efforts to engage mature adults in meaningful, satisfying activity, discarding old norms of retirement. These efforts will help prevent substance abuse and addiction among mature adults.

For many women, preventing substance abuse and addiction requires the detection and treatment of the depression that often precedes their alcohol and prescription drug problems. Family and friends, as well as physicians and other caregivers, can help by assisting the woman in getting treatment for the depression that would otherwise make her more vulnerable to alcohol and psychoactive drug problems.

Physicians: Prevention Promoters and Prudent Prescribers

To reduce the risk of alcohol and prescription drug problems, physicians can educate every mature female patient about the safe use of alcohol and prescription drugs and the consequences of abusing them; encourage them to reduce excessive alcohol or drug use; and be prudent prescribers of pharmaceuticals.

Education. As trusted professionals, physicians are in perfect position to educate women about the safe use of alcohol and prescription drugs and the hazards of abuse. Yet many physicians do not perform this role of prevention promoter.

While most physicians screen patients on their first visit for smoking and alcohol, prescription and OTC drug use, their attention to such sensitive issues usually begins and ends there.[2] Among women age 65 and over who had a check-up within the last year, only 17 percent said that their physician had asked about their drinking.[3] Many alcoholics say that their physician never even warned them that drinking was hazardous to their health.[4] Despite heavy use of prescription drugs by mature adults, some physicians devote less attention to drug counseling for them than for younger adults.[5] Even well-educated mature adults lack adequate information about the safe use of their prescriptions.[6]

Brief interventions. By counseling patients for as little as five minutes, a physician can help prevent the development of substance abuse by patients who appear to be at risk of the problem.[7]

One controlled study evaluated the impact of two 10 to 15 minute sessions in which physicians provided counseling and advice to encourage patients ages 18 to 65 to reduce their alcohol use.[9] Included in the study were women who drank more than 11 drinks per week and men who drank more than 14 drinks per week.[10] A nurse called each patient two weeks after each meeting to follow up. The results were dramatic among women.[11] Twelve months after the intervention, women reported reducing alcohol use by 31 percent and men reported cutting back by 14 percent.[12]

Critical Components of Brief Interventions to Address Early Signs of Alcohol Problems[8]

- *Explain how patient's level of alcohol use may create impairment and health risks.*
- *Inform patient about safe consumption limits and, where appropriate, offer advice about change.*
- *Assess patient's readiness to change.*
- *Negotiate goals and strategies for change.*
- *Arrange for follow-up treatment.*

Prudent prescribing. Physicians have a responsibility to educate themselves about safe prescribing practices for mature women.[13] The fact that more than one out of six Medicare beneficiaries receives an inappropriate prescription is unacceptable.[14] While prescription of long-acting benzodiazepines and sedating anti-depressants among mature adults is on the decline, more work is needed to assure that such medications are not used inappropriately in this population.[15]

All doctors need to learn, whether through medical school, continuing medical education or their own initiative, about falling tolerance for alcohol and prescription drugs among mature adults, how this aggravates the vulnerability of women to the effects of alcohol and psychoactive medications, and what are appropriate drugs and doses for mature women. With this knowledge, physicians can avoid inadvertently prescribing a dangerous drug, dose or duration of therapy for mature female patients.

To avoid dangerous reactions of mixing alcohol and a drug, or two or more drugs, physicians (or their nurses) should take a full inventory of drinking habits of mature female patients and all medications that such women are taking before writing a prescription. Such inventories may be required at each visit because a mature adult's prescription drug regimen changes frequently.[16]

Because mature women who take several medications at once may have difficulty remembering what they take and when, some doctors suggest trying the "brown bag" approach in which they ask the patient, or her caregiver, to fill a brown paper bag with everything in her medicine cabinet.[17] The doctor can then use this inventory to discern what the patient is taking and how often.

Physicians may also need to contact a patient's other physicians to coordinate the treatment plan and medication regimen.[18] The rise of managed care organizations and computer technology create opportunities to accomplish this efficiently. In order to reduce costs and improve care, many managed care companies ask primary care physicians to coordinate a patient's care among an array of physicians.[19] Primary care physicians can use this new responsibility to watch for inappropriate prescriptions or dangerous combinations of drugs.[20]

"I have seen older women with 3 or 4 prescriptions for sleeping pills. They got one from their internist, one from their surgeon, one from an emergency room physician and one from their opthamologist. And each doctor thinks he or she is the only one prescribing sleeping pills to her."

--Jeffrey Nichols, M. D.,
Chief of Geriatric Medicine
Cabrini Medical Center
New York, NY, 12/11/97

Prudent prescribing is particularly important when a patient appears to be depressed. Treatment for depression, involving psychotherapy with or without anti-depressant medication, is often very effective for mature adults.[21]

> *To alert patients and physicians about the risks of some drugs and dosages in elderly adults, the FDA has required that beginning on August 27, 1998, pharmaceutical manufacturers must include precautions for "geriatric use" on all medication labels. Patients and physicians will be able to read what is known about a drug's effects on adults over 64 and any limitations or monitoring required when they take the medication.*[29]

Mature women rely most heavily on primary care physicians for treatment of depression; few with mental health problems ever see a mental health specialist.[23] The risk of inappropriate prescribing for depression is greatest among primary care doctors; they are most likely to prescribe psychoactive medications without documenting the mental disorder that is prompting the prescription.[24] Yet these doctors account for almost half of all psychoactive drug prescriptions (48.1 percent), including tranquilizers, sedatives or hypnotics, and anti-depressants.[25] Psychiatrists account for only a third of psychoactive prescriptions (33.1 percent) and other medical specialties account for the remaining sixth (18.8 percent).[26]

This is a great concern for mature women because inappropriate prescriptions and the lack of mental health counseling may compromise the treatment of their depression. In turn, allowing the depression to persist hikes the risk of substance abuse and addiction for these women.

> *Physicians frequently prescribe benzodiazepines for sleep problems, which are common among older adults because sleep naturally becomes shorter, shallower and more fragmented with age. But if trouble sleeping is the result of alcohol abuse or the depression that frequently accompanies substance abuse in women, a prescription for benzodiazepines could cause trouble rather than treat it.*[22]

Pharmacists

Pharmacists can play a role in prevention by monitoring a mature woman's array of prescription drugs and notifying her and her physicians of duplication or unsafe combinations of medications.[27] A woman's pharmacist also can help inform her of the safe use of a drug and the risks of using it in combination with alcohol.[28]

If a woman goes to more than one pharmacy, as prescription drug abusers frequently do, she limits the ability of a pharmacist to scrutinize her entire regimen of medications. But as managed care organizations and computer technology reshape the landscape of the health care industry, this limitation will largely disappear and new opportunities to prevent prescription drug problems will emerge.

The rise of pharmacy benefit management firms is fundamentally changing what prescriptions patients receive and how they receive them.[30] These firms manage prescription drug benefits on behalf of self-insured employers, insurance companies and managed care plans.[31] The number of individuals who receive prescriptions through such firms soared from less than 60 million in 1989 to roughly 160 million in 1998.[32] By getting large volume discounts, cutting administrative costs and establishing formularies of drugs from which physicians are allowed to prescribe, the firms reduce the expense of prescription drug benefits.[33] They also have the potential to reduce inappropriate prescribing and drug use by steering physicians away from unsafe or duplicative medications and by monitoring a patient's array of prescriptions for dangerous combinations.[34]

Because of the patient coverage of these firms, their potential to reduce inappropriate

prescriptions is enormous. PCS Health Systems established a drug utilization review process that generated 25 million "alerts" in 1994, which included warnings about inappropriate prescriptions and excessive daily dosages.[35]

Nursing Homes

Nursing home staff, pharmacists and physicians can work together to prevent inappropriate prescribing and use. Federal legislation in 1990 required nursing homes to use consultant pharmacists to help reduce inappropriate prescribing.[36] While their influence appears to have reduced the number of inappropriate prescriptions,[37] a recent national survey of consultant pharmacists indicates that they could do more.[38]

Consulting pharmacists rarely see patients directly; rather they report their concerns to nursing home staff and physicians, who are ultimately responsible for prescribing decisions.[40] Most pharmacists spend only five to 10 minutes a month reviewing resident prescriptions and feel that few physicians heed their advice.[41] In the absence of close coordination with nursing home staff and physicians, the potential of pharmacists to help prevent inappropriate prescribing and use is not being tapped.

An intervention to reduce the number of falls in nursing homes by increasing environmental and personal safety and promoting the safe and careful use of psychoactive drugs produced a rate of recurrent falls that was 19 percent below the rate in comparable nursing homes.[39]

Close to Home: Community-Based Preventive Services

Community leaders, senior centers and clergy can offer opportunities for mature adults to socialize and have fun in ways that ameliorate the isolation that can lead mature adults to abuse alcohol. They can also establish services and self-help programs for mature women that aim to address the stresses of life that often emerge during retirement.[42] Employers can also help their employees prepare for retirement with counseling and other services that include drug and alcohol education.[43] Providing opportunities for volunteer work or a second career may ease some anxieties about retirement.[44]

One institution that plays a central role in the lives of many mature women is their church, temple or mosque. The clergy can reach out to mature members and to help them with the struggles in their lives; the challenges of finding a social network that can sustain them in troubled times and create fun and celebration in good times. Clergy can watch for the early signs of depression and substance abuse in mature women and make sure that women promptly get the professional help they need.

The effectiveness of such services depends on a commitment to reach out to mature adults who may be struggling with personal problems, socially isolated and reluctant to seek help.[45]

One program, Elderly Services of Spokane (ESS), a division of the Spokane Community Health Center in Spokane, Washington, has assembled a diverse cadre of gatekeepers who refer to ESS mature adults who appear to be at high risk of problems, including alcohol or other substance abuse, that could prevent them from being able to live independently in their homes.[46] This network includes mail carriers, law enforcement personnel, meter readers, bank personnel, power company billing personnel, pharmacists, telephone company employees, fuel oil dealers, city/county employees, managers of apartments of senior citizens and physicians and others who work in the health care system.[47]

Because the ESS gatekeeper network refers mature adults with problems such as depression, other health problems, personal crises and financial difficulties, it is finding and serving mature adults who are at high risk of substance abuse. It is also effective at finding mature adults who already have substance abuse problems, as described below.

Looking for Trouble

The nature of addiction makes it difficult for the afflicted individual to recognize her problem and easy for her to deny its existence. Others can intervene by recognizing the signs of trouble, referring women to a thorough assessment and encouraging them to seek help.

Family and Friends

Mature adults with alcohol or drug problems are less likely than younger adults to be socially disruptive, so their substance abuse is easier to overlook.[48] Family and friends may not recognize that the symptoms stem from a substance abuse problem and, even if they do, it can be deeply painful to admit that mom, grandma or "my wife" is an alcoholic or drug addict. They may discourage her from entering treatment if they rely on her to manage the household.

Yet family and friends who have frequent contact with mature women have the best opportunity--and responsibility--to recognize the behavior changes and warning signs of substance abuse and addiction. For the mature women, their efforts may be particularly critical to getting her into timely treatment. By taking the time to learn about the symptoms and what assessment and treatment resources exist in their communities, they can help a woman recognize her problem and seek a thorough assessment to determine its severity and the treatment required. If she smokes, they can urge her to quit and underline the health benefits that she will gain even at such a relatively late stage by doing so. In any of these efforts, they can seek the consultation and support of a physician who knows the mature woman.

Community-Based Outreach

For the woman who does not have family and friends to help her recognize her substance abuse problem and get counseling or treatment, others must step in to fill the void.[49] With minimal training on the nature of substance abuse and addiction and what the problem looks like in women at or after age 60, community-based nurses, home health aides, clergy, social workers, those who work in senior centers and those who deliver meals and other services to mature adults --even those who deliver the mail--can recognize the signs of trouble and seek help from a professional, such as a mental health counselor, a physician or a substance abuse treatment provider who can do a thorough assessment and recommend appropriate treatment for the woman.

The Spokane ESS gatekeeper network demonstrated how creative and caring outreach can not only prevent substance abuse among mature adults, but also uncover the quiet sufferers of this hidden problem. An ESS study of 1668 of its clients found that one out 10 (9.6 percent) were alcohol abusers and of these cases, 37.5 percent were women.[50] In another study, ESS found that one out of 20 (five percent) of its cases were prescription drug abusers. Of these cases, 90 percent were women; 80 percent were widowed, divorced, separated or never married; and 60 percent had current or past problems with alcohol abuse.[51] The most commonly misused prescription drugs were sedatives or hypnotics, anti-anxiety medications and painkillers, with diazepam and codeine topping the list.[52]

Two groups of community-based professionals can play an important role in finding the signs of substance abuse and responding effectively: nurses and home health aides.

Nurses. As community health providers and professionals in emergency departments and outpatient clinics, nurses are taking on responsibilities to provide preventive health care services both in the community and in clinical settings.[53] They can play a pivotal role in detecting substance abuse among mature women and steering them to the help that they need. They also can look for the signs of trouble and respond with brief interventions, counseling and referrals that reduce risky drinking and smoking. To do this, they need training, and the time devoted to substance abuse in nursing schools and continuing education programs, is brief or non-existent.[54]

Home health aides. The number of adults age 65 and over who receive help in their home from health care aides jumped 54 percent from 1.23 million in 1992 to 1.89 million in 1994.[55] Home health care aides visit daily or almost daily to provide skilled nursing care, social services and assistance with meals, medications and other daily tasks.[56] Most of their clients are women (71 percent)--about half (54 percent or 528,900 women) are widows, about half (45 percent or 443,200) live alone.[57]

Home health care aides can learn how to calibrate psychoactive drug use and detect the signs of overuse and abuse. With minimal training, they can respond with encouragement to seek help and referrals to professional assessments. But currently, few of them receive any training in the nature of substance abuse and addiction and how to talk to a mature woman about it.[58]

The Unique Responsibility of Physicians

Brief physician counseling to encourage the mature woman to reduce risky drinking,[60] address a drinking problem[61] or quit smoking increases the chances that she will do so.[62]

The extraordinary influence that doctors exert over most patients place unique responsibilities on all of them--family or general practice physicians, internists, obstetricians and gynecologists, psychiatrists, surgeons and others--to spot signs of substance abuse in their mature female patients and encourage them to change their ways or seek appropriate treatment.[63] But too many physicians fail to meet their responsibilities.[64]

What Physicians Can Do to Prevent Psychoactive Prescription Drug Abuse[59]

- *Carefully screen for alcohol or drug problems before prescribing psychoactive medication.*
- *Thoroughly assess and document the appropriateness of a patient's prescriptions.*
- *Minimize doses and shorten the duration of drug therapy to the minimum necessary.*
- *Follow-up to monitor use, effectiveness and whether medication should continue. Watch for signs of rising tolerance.*
- *Resist patient pressure to prescribe unnecessary medicines.*

CASA's survey found that physicians were just as likely to miss the diagnosis of an alcohol problem in older and younger adults, whether female or male. Other research suggests that physicians are most likely to miss the diagnosis of alcoholism among their mature female patients.[65] In one, hospital doctors were three times more likely to fail to diagnose alcoholism in a female than in a male.[66] In another, hospital physicians identified only a third (37 percent) of the mature alcoholics, compared to almost two-thirds (60 percent) of the younger alcoholics;[67] and they failed to detect a single case of alcoholism among mature female patients, despite the fact that 11 percent of them were alcoholics.[68]

About half (45 percent) of adults in treatment for substance abuse who had a primary care doctor said that their physician didn't know about their substance abuse.[69] Less than half of hospitalized alcoholic patients are diagnosed as alcoholics and many of those so diagnosed are not referred to further assessment, counseling or treatment.[70] One study of physicians who had recognized the signs of alcohol abuse in their patients found that in only 24 percent of cases did they act to address the problem.[71]

These findings reveal a large gap between what physicians should be doing and what they are doing, with damage to women and their families, and unnecessary costs to Medicare, Medicaid and private health insurers.

How to find trouble. Physicians can seek reports from the patient regarding use and related problems; the patient's family history

regarding substance abuse and addiction; behavioral observation of the patient; official medical records of the patient; laboratory tests; careful scrutiny of a patient's prescription and OTC drug use; and screening tools designed to detect alcohol problems.[72]

Blood and urine tests can turn up anomalies that indicate possible alcohol abuse.[73] But alone they are not sufficient measures of possible alcohol or drug dependence. In one study, researchers using a variety of screening tools for alcoholism and drug dependence found that 11.7 percent of the patients in a trauma unit who had no trace of alcohol in their blood were nevertheless current alcoholics; 3.9 percent of those who had no sign of drugs in their urine were drug dependent.[74]

The first clue that a patient has an alcohol or prescription drug problem may be an unexpected response or no response to a prescribed medicine.[75] If a physician is prescribing tranquilizers, sedatives or anti-depressants that are sedating for anxiety, insomnia or depression without treating the underlying alcohol problem that is causing these symptoms, the therapy is unlikely to succeed and the prescription in combination with alcohol may endanger the patient.[76] Similarly, patients who are abusing psychoactive drugs tend to be anxious and sleepless; if the physician responds with more tranquilizers or sedatives--without treating the underlying prescription drug problem--the therapy will fail and the patient will get sicker.[77]

Unfortunately there are no screening tools custom-made to detect alcohol or prescription drug problems in mature women.[78] Researchers have developed alcohol-abuse screening tools, called T-ACE and TWEAK, specifically for women who are pregnant;[79] the effectiveness of these tools among mature women is unknown.* There are other tools for adults, but none tailored to women.

Physicians can choose from two diagnostic tools that have been proven to be reasonably effective in detecting alcohol problems among mature adults of both sexes: the CAGE questionnaire and the MAST-G (Michigan Alcohol Screening Test - Geriatric Version).

CAGE is shorter and easier to administer.[80] Requiring about one minute to complete, the CAGE finds fewer cases--roughly half of all mature alcoholics--but with fewer false positives than the MAST-G.[81] The drawback of the CAGE is that it is designed to find those who are dependent on alcohol, and may miss many cases of mature women in early stages of alcohol abuse.[82]

The MAST-G, developed to detect mature adult alcoholics, is a list of 24 questions, usually completed in writing, that requires about 20 minutes to complete.† [83] Tests have indicated that it finds virtually all mature adult alcoholics, although it may also pick up some false positives--individuals whose responses suggest the presence of an alcohol disorder, but who do not have a drinking problem.[84]

Because an effective screening tool for prescription drug abuse among mature adults does not exist,[85] physicians must use their diagnostic intuition and communication skills to detect signs of trouble with prescriptions. They can ask their patients:[86]

- Do you see more than one health care provider regularly? Why?
- Have you switched doctors recently? Why?
- What prescription drugs are you taking? Are you having any problems with them?
- Where do you get your prescriptions filled? Do you go to more than one pharmacy?
- Do you use any nonprescription medications? If so, what, why, how much, how often and how long?

* These screening tools appear in Appendix F.

† The MAST-G appears in Appendix F.

If the patient seems confused about her prescriptions, sees more than one doctor, uses more than one pharmacy or seems reluctant to discuss her use, closer assessment is warranted.[87]

What to do with the results. If physicians suspect that the patient is abusing or dependent on alcohol or prescription drugs, they will need to do an in-depth assessment or refer patients to addiction specialists for such an assessment, which can take 90 minutes to two hours.[88] This is a thorough inquiry into the patient's alcohol and drug use and any related problems, and may involve questioning the woman's spouse, family or other caregiver.[89] Physicians who lack the time and expertise to do this can refer women to an expert for assessment, encourage her to seek it and follow-up to make sure she does so.

Whether the physician does a full-fledged assessment or refers the patient to a specialist who can conduct one, brief counseling to encourage the mature woman to address a drinking problem is likely to increase the chances that she will do so, and follow up may help prevent relapse.[90] Studies of male patients indicate that a physician's intervention improves the alcoholic's prognosis, possibly by helping to motivate the patient to address his drinking problem and helping him find effective treatment.[91] Such efforts are likely to be equally or more effective with women.[92] Although no research has assessed the effectiveness of such interventions specifically for prescription drug problems, the evidence regarding alcohol problems is encouraging in this regard.

Ideally this occurs in the physician's office during a regular check-up, when early detection is still possible. But in the absence of this early diagnosis, specialist physicians in private offices and hospitals must share this responsibility and opportunity to recognize this problem, intervene effectively and help to restore the health and independence of their mature female patients--and in the process help to save millions of dollars in health care bills.[93] Key to encouraging busy physicians to spend this time with their patients is a reimbursement system that pays doctors to talk to patients.

Substance Abuse is Treatable

Although some 1.8 million mature women need treatment for alcohol abuse or alcoholism, only a fraction of them get it. In 1993, only about 37,214 adults age 60 and over were in treatment for alcohol problems.[94] It is not known what percentage of them are women, but overall, women represent less than a third (29 percent) of all individuals in treatment.[95] This suggests that if roughly 11,000 mature women are getting treatment and 1.8 million need it, less than one percent (0.6 percent) of mature women who can benefit from substance abuse treatment are getting it.

Based on measures of reduced alcohol use and abstinence, mature adults do just as well in treatment as younger alcoholics.[96] A year after treatment, 65 percent to 74 percent of older adults continue to abstain or limit their drinking.[97]

Some research suggests that on average mature women do even better than younger adults.[98] In an eight-year follow-up of female and male treated alcoholics, those over 60 were more likely to have good outcomes (abstention or moderate drinking) than those 60 or younger (24 percent vs. 20 percent).[99] The fact that substance abuse can be treated effectively makes it important to craft strategies to assure that mature women with alcohol and drug problems have access to treatment.

The prognosis is particularly good for alcoholics whose drinking problems developed at or after age 60. Though small in number, late-onset alcoholics tend to have less severe cases of the problem.[100] They usually drink less, are in better health and more likely to be married than early-onset alcoholics.[101] Late onset alcoholics are more likely than those with an early-onset problem to seek help from a professional such as a physician, mental health counselor or member of the clergy and to respond well to treatment.[102]

Important Elements of Treatment for Mature Women

Mature women have needs in treatment that programs tailored for younger adults usually do not address.[104] Accommodating these differences is likely to improve treatment outcomes.[105] For example, the tempo of treatment may need to be slower due to hearing loss and cognitive deficits, and mature adults may be slower to talk openly about their private lives to relative strangers.[106] The ability of a treatment provider to do home visits may be necessary for mature alcoholics who are frail or ill.[107]

> *The average group session of middle-aged alcoholics discussing their need to reestablish a career, their interactions with their young children or spouse and their relevant leisure time activities may have limited meaning for an older patient.*[103]

Mature adults frequently have less hope for their future, which may hinder their motivation in treatment.[108] Mature women may have more deeply entrenched denial of the problem and guilt associated with it.[109] As a result, confrontational approaches that are often effective with younger adult alcoholics may backfire with mature women, driving them deeper into their shame, denial and reluctance to remain in treatment.[110]

Treatment providers who serve mature adults must develop closer relationships with medical centers because their clients often have other illnesses that require medical attention.[111] They also need to coordinate any pharmacological therapy for alcoholism withdrawal and treatment with the patient's other medications. For example, when treatment of alcoholism involves anti-depressants and/or benzodiazepines, starting with a careful assessment of a mature woman's use of psychoactive drugs is important to avoid any unsafe interactions.[112]

Although research has not verified their effectiveness, anecdotal reports and common sense suggest that mature adults would benefit from peer support groups and Alcoholic Anonymous meetings that are limited to mature adults.[113] The issues that mature adults must address in treatment usually differ from those of younger adults. The vocational and social problems that younger adults suffer as a result of their drinking may be irrelevant to mature women who are retired and have few family responsibilities.[114] Conversely, depression, social isolation and age-related stresses--from illness and the loss of loved ones during retirement--are all concerns of mature adult alcoholics, and particularly mature women, that are unlikely to resonate among younger alcoholics.[115]

Mature adults may also need one-on-one counseling from individuals who are attuned to the concerns and stresses of life after age 59.[116] They need help developing coping skills that address the stresses of their lives, such as social isolation, financial pressures, illness and the loss of a spouse or companion.[117]

After-care is an important factor in supporting a mature woman's efforts.[118] Mature adults also need help to cope with family dynamics that may change after they stop abusing alcohol and drugs and to create a social network that supports their sobriety, which can be especially challenging for mature adults who are disconnected from established social circles.[119] Interestingly, one study found that, unlike mature male alcoholics, mature female alcoholics reported a loss of support from extended family members and greater family stresses one year after completing treatment and staying sober.[120] This may indicate that a mature woman's drinking was effectively suppressing behavior and conflicts that emerged only when she became sober.

Quitting Smoking

In general, mature women do not appear to have a tougher time quitting smoking than do younger women.[121] But the reasons mature women cite for wanting to quit do differ from their younger counterparts; current or looming health concerns

provide the main motivation for mature women to quit.[122]

Efforts to help women quit smoking must address two prominent hurdles to their cessation attempts: the depression that frequently saps their motivation to quit and the weight gain that makes them relapse.[124] Female smokers' worries about weight gain do not appear to dissipate with age.[125] One study found that women ages 50 to 75 and women ages 20 to 49 in a smoking cessation program were just about as likely to report that weight gain after quitting would be a problem for them (68 percent vs. 72 percent).[126] On average, women gain about eight to 11 pounds after quitting smoking.[127] Even with this weight gain, however, a woman's chance of getting heart disease falls if she quits smoking.[128] Recent research has indicated that use of an anti-depressant medicine increased success rates and reduced weight gain among smokers who are trying to quit.[129] More research is needed to build on this work and to design effective cessation programs.

Women of Different Ages Who Smoke Cite Different Reasons for Trying to Quit[123]

Top three reasons among women age 50 to 75:

- *I have experienced some health problems related to smoking.*
- *I am concerned about the possibility of lung cancer.*
- *I want the benefits of a more active lifestyle, which smoking hinders.*

Top three reasons among women age 20 to 49:

- *I am concerned about the possibility of lung cancer.*
- *Smoking is a dirty habit causing bad breath, stains, etc.*
- *Someone important wants me to quit (husband, boyfriend, etc.).*

Important opportunities to encourage smoking cessation among mature women occur in a physician's office, hospital or other clinical setting, nursing home, and board and care and substance abuse treatment facilities.

Physician's Offices and Other Clinical Settings

Brief physician interventions, which range from simple advice to quit to more lengthy counseling (three to four minutes) improve the chances that a woman will quit.[130] Physicians may also consider pharmacological aids such as nicotine replacement.[131] Some smokers need referrals to smoking cessation programs.[132]

While mature female smokers are most likely to cite urgent health concerns as a reason to quit, many believe that the damage is done and that quitting will not provide any health benefits.[133] As a respected and trusted health professional, physicians can point out the quick and sometimes dramatic health improvements that result from quitting at or after age 60. Patients who are suffering from smoking-related illness, such as heart disease, are obvious targets for advice to quit and some research suggests that they are more likely than those without such illness to succeed.[134]

Yet most physicians are failing even to provide basic advice to stop smoking.[135] Almost two out of three female smokers age 65 and over say they have not been advised by their physician to quit smoking during the previous year.[136] Indeed, physicians have been found to fail to counsel three out of four smokers age 65 and over--of either sex--to quit.[137]

Nursing Homes and Board and Care Facilities

Many nursing home residents smoke, which creates an opportunity for nursing home staff to help mature women quit smoking. Yet too few nursing homes have taken aggressive steps, such as expanding smoke-free environments and recruiting residents for smoking cessation programs, to encourage potential quitters.

Substance Abuse Treatment Facilities

Given that 80 percent of alcoholics smoke cigarettes, treatment providers for alcoholics have an opportunity to help their clients quit smoking.[138] But again, few have taken aggressive steps to do so because treatment providers fear that the stress of nicotine withdrawal might provoke a relapse to drinking.[139]

However, recent research suggests that those who quit smoking during treatment are less likely to relapse to drinking after treatment.[140] One study found that the average length of sobriety among non-smokers was almost twice that of those who continue to smoke after completing treatment for alcohol problems.[141] It may be best to tackle the twin challenges of stopping drinking and smoking at the same time and with the structure and support of the treatment setting.[142]

With smoking as well as alcohol and prescription drug problems, the opportunities for effective prevention, detection or treatment are many. The challenge--and moral imperative--is to take action to use these opportunities because the cost of missing them is so high and avoidable.

VII. Taking Action

Because prevention, early detection and referral to treatment are so rare among mature women, their substance abuse problems are usually addressed only in terms of their consequences--the financially expensive and wrenching human tragedies that mount when substance abuse slowly destroys a mature woman's health and life.[1] The resulting illness, injury, loss of independence, despair and death are both a tragic premature end to the lives of millions of women and a solemn warning about the personal losses and enormous health costs that our nation faces as substance abuse grips mature women in greater numbers.

To prevent this needless and costly suffering, we urgently need to increase our understanding of substance abuse and addiction among mature women and act upon what we already know.

Organizations that Serve Mature Women Should Educate Them, Their Family and Friends.

Because prevention and detection start at home, organizations that serve mature adults--from local senior centers, pharmacies, churches, temples and mosques to national membership organizations--should inform their mature female clients and members, as well as their family, friends and other caregivers about growing vulnerability to alcohol as women age, the risk factors of alcoholism that emerges later in life; the dangers of overusing psychoactive prescription drugs; the perils of combining such drugs with alcohol; and the benefits of quitting smoking. The goals are to enable women to be their first and best caretaker and to raise understanding about the problem among family, friends and other caregivers so that they can spot early signs of trouble and intervene effectively.

An Introduction to the Risk and Treatment of Alcohol Abuse Among Mature Adults

The American Association of Retired Persons and the Hazelden Foundation have teamed up to create video and written materials to educate mature adults, their families and friends about the risk and treatment of alcohol and drug problems later in life. "It Can Happen to Anyone: Problems with Alcohol and Medication among Older Adults," is a 26-minute video that community-health centers, clinics and senior centers across the country can use to help their employees and members recognize the early signs of the problem. The video and other materials are available through Hazelden Publishing and Education (1-800-328-9000).

Families and friends need to shed their beliefs that mom or grandma, or their wife or friend, could not possibly be an alcoholic or drug abuser. Just as we need to replace the myth that addiction is a moral flaw with the reality that it is a disease, we need to accept that the alcoholic or drug abuser may be as close to us as our own mother, grandmother or wife.

Gatekeepers in the Community Should Look for Trouble.

Physicians and nurses play a critical role in detecting the early signs of trouble, but they cannot carry the whole show. With basic training on the nature of substance abuse and addiction and what the problem looks like in mature women, clergy, social workers, home health aides, those who work in senior centers and those who deliver meals and other services to mature adults can recognize the warning signs and seek help from a professional, such as a mental health counselor, a physician or a substance abuse treatment provider, who can do an assessment and recommend appropriate treatment for the woman. Following-up with support and encouragement is also valuable, particularly for the woman who is isolated and lonely.

Physicians Should Act for the Good of Their Patients.

The strong evidence that brief physician interventions can improve medication compliance, improve smoking cessation rates and reduce risky, abusive or dependent drinking creates a fundamental obligation for physicians to act accordingly in their practice.

Resources for Physicians Who Want to Learn More About Addressing Substance Abuse Among Their Patients

- American Medical Association. (1995). *Alcoholism in the elderly: Diagnosis, treatment and prevention: Guidelines for primary care physicians.* Chicago, IL: AMA.
- National Institute on Alcohol Abuse and Alcoholism. (1995). *The physicians' guide to helping patients with alcohol problems.* Rockville, MD: U. S. Dept. of Health and Human Services, National Institutes of Health (Pub. #95-3769).
- Sullivan, E. & Fleming, M. (1997). *A guide to substance abuse services for primary care clinicians: Treatment improvement protocol (TIP) series 24.* Rockville, MD: U. S. Dept. of Health and Human Services, Center for Substance Abuse Treatment.
- Agency for Health Care Policy and Research. (1996). *Clinical practice guidelines, no. 18: Smoking cessation.* Atlanta, GA: U. S. Dept. of Health and Human Services, Centers for Disease Control and Prevention.

Physicians can use several publications that provide basic information regarding the problem, its prevention and detection. They can also read and act upon the new FDA-required warning labels regarding geriatric use of psychoactive drugs.[2] The labels will describe what is known about a drug's effects on mature

adults and any limitations or monitoring that is required when they take the medication.[3]

When Physicians See Signs of Depression, They Should Always Ask About Substance Abuse.

To prevent ineffective treatments, costly health problems and doing harm to their patients, when physicians see symptoms of depression in women of any age, they should always consider the possibility of substance abuse. Many symptoms of substance abuse--loss of energy, weight loss, irritability, chronic heartburn and trouble sleeping, for example--are easy to misdiagnose as those of depression. Moreover, the disorders of depression and substance abuse frequently co-occur in women, which means that if you see one, you may very well find the other as well.

Perceptions about depression in recent decades have undergone a revolution, transforming it from a condition widely considered a character weakness to one considered to be a treatable disease. These changes have helped nearly to double the number of visits to physician offices for depression from 11.0 million in 1985 to 20.4 million in 1994.[4] Similar revolutions in thought--from a moral flaw to a treatable condition--and in physician and patient behavior are needed with respect to substance abuse and addiction.

Medical Schools and Continuing Medical Education Programs Should Step Up Training in Substance Abuse.

Training physicians to recognize the early signs of substance abuse in patients of all ages and genders is a critical step toward getting women the help they need. But teaching knowledge is not enough because physician practice will not improve until their attitudes and skills change as well. Physicians need to know how to talk to patients about the problem, how to create a safe and supportive environment that encourages candid discussions about sensitive issues such as drinking and drug abuse, how to break through denial, how to motivate patients to take action to address their problem and where to refer such patients.

Physicians need training in *all* kinds of substance abuse--involving alcohol, licit and illicit drugs and nicotine. They need comprehensive training on the safe use of prescription medications by mature women, which takes into account their falling tolerance and particular vulnerability at any age to the effects of some psychoactive medications.

One area that is particularly important for their mature female patients is how to prevent problems with pain medications. Pain specialists need training in addiction and addiction specialists need training in pain management.[5] Given the evidence that mature adults are frequently under-treated for pain, the goal is to treat it effectively--without courting addiction by carelessly prescribing addictive pain relievers.[6]

Physician, Nursing and Other Health Professional Licensing and Certifying Boards, and Residency Review Committees of the Primary Care Specialties Should Create Strong Requirements Regarding Substance Abuse and Addiction.

These requirements should include training in knowledge, attitudes and skills, training on the problem in individuals of all ages and genders, and training on all types of drugs: alcohol, licit and illicit drugs and nicotine. Questions about substance abuse should be on every exam for licensing physicians, nurses and other health professionals and certifying specialties.

Similarly, all licensed health care professionals can learn how to detect the signs of substance abuse and addiction and respond with appropriate referrals and motivational support for the afflicted woman. But only when state licensing boards put questions about substance abuse on their exams will schools and students respond by taking seriously the need to understand this problem.

Pharmaceutical Companies Should Help Educate Physicians.

Pharmaceutical companies should use their detail people, who meet with physicians and their nurses, to improve prescribing practices for mature women and detection of their substance abuse problems. In particular, detailers can focus physicians on the risks of some psychoactive medications for mature women, the dangers for older women who combine even small doses with small amounts of alcohol, and the critical need--before writing a prescription--to look for substance abuse among women who suffer depression.

> *The primary care specialties of Family Practice, Internal Medicine, Pediatrics and Obstetrics-Gynecology should require all residents to be trained to develop and demonstrate those skills necessary to prevent, screen for and diagnose alcohol and other drug problems; to provide initial therapeutic interventions for patients with these problems; to refer these patients for additional care when necessary; and to deliver follow-up care for these patients and their families.*
>
> --Concluding statement of the medical educators, physicians and researchers who attended the Josiah Macy, Jr. Foundation Conference on Training for Primary Care Physicians, 1994.

Medicare, Medicaid, Private Insurers and Managed Care Organizations Should Pay Physicians to Talk to Patients About Substance Abuse and Cover Treatment.

Without institutional support to address the lack of time and money to compensate physicians for their efforts, physician training alone will be insufficient to address the problem. The financial incentives of managed care put pressures on physicians to treat more patients in less time. The consequent neglect of substance abuse problems not only degrades the quality of care mature women receive, but also ignores the fact that prevention pays.

Medicare covers the costs of inpatient substance abuse treatment only when services are provided in a hospital setting, which in many cases amounts solely to detoxification.[7] Moreover, Medicare covers only 50 percent of the costs of most types of outpatient psychiatric treatment.[8] These are serious limitations given the shoe-string budgets of many older adults and the frequent need for residential treatment for those who are addicted. Unless Medicare, managed care organizations and insurers pay for treatment, the alternative, which is now the norm, will continue: mature adults with alcohol and drug problems will get treatment only for the costly consequences--the heart attacks that take lives and hip fractures that destroy the capacity to live independently.

At their best, managed care arrangements encourage preventive, effective and efficient care.[9] But in many cases, they also encourage health care providers to limit preventive services for difficult, chronic conditions like substance abuse and to minimize specialty care and treatment in order to cut costs and maximize short-term profits.[10] As Medicare and managed care walk to the altar together, they should be very careful about the terms of their marriage regarding the growing health needs of mature women, which include the prevention and treatment of substance abuse and addiction.

Pharmacists and Pharmacy Benefit Management Firms Should Use Their Power to Prevent Inappropriate Prescriptions.

Pharmacists and pharmacy benefit management firms should scrutinize prescription regimens for inappropriate prescriptions, notify physicians accordingly and counsel patients regarding the dangers of overuse and combining psychoactive medications with alcohol. Pharmacists can scrutinize prescription regimens for

inappropriate prescriptions and notify physicians accordingly.

Nursing and Other Long-Term Care Staff Should Take Action Against All Kinds of Substance Abuse and Addiction Among Their Residents.

Nursing and other long-term care staff should work closely with physicians and pharmacists to assure that mature women use psychoactive prescription drugs safely and effectively. And they need to encourage and help their residents quit smoking.

Federal and State Policymakers Should Vigorously Enforce Regulations to Reduce Inappropriate Prescriptions in Nursing Homes and Deny Funding to Nursing Homes That Do Not Make Substantial Efforts to Help Residents Quit Smoking.

Nursing home practices have changed significantly under the weight of federal and state legislative and financial pressure, and it will continue to do so only if the laws are vigorously enforced.[11] The 1987 federal law (Omnibus Budget Reconciliation Act of 1987) that limited the use of antipsychotic drugs in nursing homes only for residents with a small number of diagnoses significantly reduced the use of these drugs, which had been used essentially to restrain individuals and turn them into immobile and undemanding residents.[12] Nursing homes that do not comply with the new law lose federal money. The government should continue to enforce this law and consider using the power of the purse to encourage smoking cessation as well.

Treatment Providers Should Act to Reduce Use of All Drugs Among Their Clients.

With rising evidence that quitting smoking enhances the chances for recovery from alcohol and other drug problems, treatment providers can no longer ignore the need for their clients to quit smoking as part of the recovery process.

Treatment Providers Should Act on Research Indicating that Mature Adults Do Best in Treatment Programs that Address Their Particular Needs.

Treatment providers should experiment with senior support groups, one-on-one counseling focused on issues relevant to mature adults; concerted outreach and home visits for the isolated alcoholic or prescription drug abuser; after-care that helps mature adults build non-drinking social networks.

The National Institutes of Health and Other Funders Should Expand Research on Alcohol, Psychoactive Prescription and Over-the-Counter Drug Use and Abuse Among Mature Women, as Well as on Treatment and Smoking Cessation Strategies for Them.

The study of mature adults--gerontology--is a growing field, and its leaders need to pay greater attention to the substance abuse problems of this population.[13] In particular, clinical and epidemiological research on the extent of alcohol abuse and alcoholism and the extent, correlates, causes and consequences of psychoactive prescription and OTC drug abuse and addiction among mature women is badly needed. Efforts to open these doors of knowledge will inform efforts to assure that every mature woman uses the

amazing panoply of drugs available to her safely and effectively.

Research is needed to understand the inappropriate use of pain medications and alcohol among mature women who suffer from chronic pain. CASA's survey strongly indicates that pain medications are a leading cause of trouble for mature women in either prescription or OTC form, or in combination with alcohol.

Research on the role of race and ethnicity and income in the development of substance abuse and addiction among mature women is also needed. The extent of alcohol and prescription drug abuse and smoking in active retirement communities is another area that needs further study. With so little known about these problems, such communities may inadvertently aggravate the problem with social events that encourage heavy drinking and staff physicians who look the other way. But the evidence is largely anecdotal. We need solid research to inform prevention and treatment efforts that are effective in these settings.

Research to develop new laboratory tests could aid in early recognition of alcohol abuse and, as a result, improve the prognosis for individuals with alcohol problems. Such tests would provide physicians with a tool for detection when patients are reluctant to disclose hints and physicians are reluctant to probe for more information.

Finally, research can inform the development of effective smoking cessation strategies for mature women who smoke, despite so many pleas from family, friends and public health campaigns to quit.

The Action Agenda

This agenda for action boils down to three basic challenges for our nation:

- Face up to the problem of substance abuse and addiction as one that afflicts our grandmothers, mothers, wives, sisters and aunts.
- Look for early signs of abuse and addiction and use proven prevention and treatment tools to help mature women.
- Improve our understanding of substance abuse among mature women so that we can respond effectively to the growing number of such women it will affect in the coming years as the Baby Boomers begin reaching age 60.

Too many Americans are facing the first challenge the hard way: through first-hand experience. A national survey in 1997 found that 48.3 percent of adults think that alcohol and drug use or abuse is increasing among mature adults; when asked whether they have ever been concerned about a mature adult who they know who has abused alcohol or drugs, 64.1 percent of them answered, "Yes."[14]

American families will shoulder the responsibility of caring for aging spouses and parents as they lose their ability to live independently, and of paying the taxes that fund Medicare and other public programs for them. If we address the threat of substance abuse head-on with sensible commitments to research, prevention, appropriate treatment and physician and health professional training, we can meet our responsibilities as families and as a nation to nurture healthy and happy lives for mature female Americans. But unless we act now, the costs associated with substance abuse and addiction will threaten our ability to fulfill this profound obligation.

CHAPTER I.

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CHAPTER II.

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CHAPTER III.

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CHAPTER V.

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CHAPTER VI.

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CHAPTER VII.

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APPENDIX A

DSM-IV Alcohol Abuse and Dependence Criteria and Associated Questionnaire Items

Diagnostic Criteria for Alcohol Abuse

Diagnostic Criterion: Continued to drink despite social or interpersonal problems caused by drinking

Questionnaire Item:

- Continue to drink even though you knew it was causing you trouble with your family or friends.

Diagnostic Criterion: Recurrent drinking in situations where alcohol use is physically hazardous*

Questionnaire Items:

- Drive a car, motorcycle, truck, boat, or other vehicle after having too much to drink.
- Get into a situation while drinking or after drinking that increased your chances of getting hurt—like swimming, using machinery, or walking in a dangerous area or around heavy traffic.

Diagnostic Criterion: Recurrent alcohol-related legal problems*

Questionnaire Item:

- Get arrested or held at a police station because of your drinking.

Diagnostic Criterion: Recurrent drinking resulting in failure to fulfill major role obligations at work, school, or home*

Questionnaire Items:

- Get drunk or have a hangover when you were supposed to be doing something important—like being at work, school, or taking care of your home or family.
- Get drunk or have a hangover when you were actually doing something important—like being at work, school, or taking care of your home or family.

Diagnostic Criteria for Alcohol Dependence[1]

Diagnostic Criterion: Tolerance[2]

Questionnaire Items:

- Find that your usual number of drinks had much less effect on you than it once did.
- Find that you had to drink much more than you once did to get the effect you wanted.

Diagnostic Criterion: Withdrawal syndrome[3] **or withdrawal relief/avoidance:**

Questionnaire Items:

- Have any of the following experience happened when the effects of alcohol were wearing off [Pause], several hours after drinking [Pause], or the morning after drinking? For example, did you *ever*:
  - (a) Have trouble falling asleep or staying asleep.
  - (b) Find yourself shaking when the effects of alcohol were wearing off.
  - (c) Feel depressed, irritable, or nervous.
  - (d) Feel sick to your stomach or vomit when the effects of alcohol were wearing off.
  - (e) Have a very bad headache.
  - (f) Find yourself sweating or your heart beating fast when the effects of alcohol were wearing off.
  - (g) See, feel, or hear things that were not really there.
  - (h) Have fits or seizures when the effects of alcohol were wearing off.
- Take a drink to get over any of the bad aftereffects of drinking.
- Take a drug other than aspirin, Tylenol ™, or Advil ™ to keep from having a hangover or to get over the bad aftereffects of drinking.
- Take a drink to keep from having a hangover or to make yourself feel better when you had one.

Diagnostic Criterion: Drinking larger amounts over a longer period of time than intended*

Questionnaire Items:

- Start drinking even though you decided not to or promised yourself you would not.
- End up drinking more than you meant to.
- Keep on drinking for a much longer period of time than you had intended to.

Diagnostic Criterion: Persistent desire or unsuccessful efforts to cut down or control drinking*

Questionnaire Items:

- Want to stop or cut down on your drinking.
- Try to stop or cut down on your drinking but found you could not do it.

Diagnostic Criterion: Important social, occupational, or recreational activities given up or reduced in favor of drinking

Questionnaire Items:

- Give up or cut down on activities that were important to you in order to drink—like work, school, or associating with friends or relatives.
- Give up or cut down on activities that you were interested in or that gave you pleasure in order to drink.

Diagnostic Criterion: Great deal of time spent in activities to obtain alcohol, to drink, or to recover from its effects

Questionnaire Items:

- Spend so much time drinking that you had little time for anything else.
- Spend a lot of time being sick or with a hangover from drinking.
- Spend a lot of time making sure that you always had alcohol available.

Diagnostic Criterion: Continued to drink despite knowledge of having a persistent or recurrent physical or psychological problem caused or exacerbated by drinking

Questionnaire Items:

- Continued to drink even though you knew it was making you feel depressed, uninterested in things, or suspicious or distrustful of other people.
- Continued to drink even though you knew it was causing you a health problem or making a health problem worse.

---

* In order for the criterion to be positive, either: (a) two or more symptoms must have occurred at least once, or (b) one or more symptoms must have occurred at least twice during the past year.

[1] Dependence diagnoses can be specified with physiological dependence (i.e., evidence of either tolerance or withdrawal) or without physiological dependence (i.e., no evidence of either tolerance or withdrawal).

[2] Tolerance need have occurred only once during the past year for the criterion to be positive.

[3] Two or more symptoms of withdrawal must have occurred at least twice during the past year for the criterion to be positive.

SOURCES: American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders, 4th edition (DSM-IV)*. Washington, DC: American Psychiatric Association, 182-183, 196; Grant, B. F., et al. (1994). Prevalence of DSM-IV alcohol abuse and dependence. *Alcohol and Health Research World*, *18*(3), 243-248.

APPENDIX B

Survey Questionnaire

LOUIS HARRIS AND ASSOCIATES, INC.
111 Fifth Avenue
New York, New York 10003

FOR OFFICE USE ONLY:

Questionnaire No.:

Study No. 728290 - EDIT MASTER
(108-113)
January 13, 1998

Card Number (6-7)

114-126Z

PHYSICIANS' PREVENTIVE HEALTH SCREENING PRACTICES

Time Started: _____A.M./P.M.

Interviewer_____ I.D. NO.: _____ Date of Interview: _____
(127-132)

133-149Z

Area Code: _____ Telephone No.: _____
(150-152) (153-159)

BASE: ALL

QA. Hello, I'm _____ calling from Louis Harris and Associates, the survey research firm in New York. May I please speak to Dr. _____ (NAME FROM SAMPLE CARD)?

Continue	(171(__ - 1	172Z
No, not available	__ - 2	
Don't know	__ - &	
Refused	__ - -	

BASE: ALL

QB. Recently, we mailed you a letter describing a nationwide study of physicians Harris is currently conducting for researchers at Columbia University. Did you receive this letter? (IF PHYSICIAN DID NOT RECEIVE LETTER OR DOES NOT REMEMBER LETTER, SAY: I'm sorry you didn't receive the letter. In that case, may I briefly run over the details of the letter or would you prefer that I fax you another copy?)

Received Letter	(173(__ - 1	174Z
Run over details	__ - 2	
Fax another copy	__ - 3	
Don't know	__ - &	
Refused	__ - -	

BASE: ALL

QC. The purpose of this study is to gain insights into how physicians prevent, screen and treat a number of chronic conditions in their office-based practices. The survey will ask about: the types of patients you see in your office-based practice, what their most common ailments are, how these problems are diagnosed, the barriers you face when attempting to diagnose these conditions, and your experiences treating these conditions.

Continue	(175(__ - 1	176Z
Call back	__ - 2	
Don't know	__ - &	
Refused	__ - -	

BASE: ALL

The interview will take about 15 or 20 minutes. Is now a convenient time to conduct it? (IF NOT CONVENIENT, SCHEDULE ANOTHER DATE AND TIME).

Date: _____ Time: _____

Set (160-162)	Control Number (167-170)
State (163-164)	
Specialty (165-166)	

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Scenario to be asked:

A. _____ Woman aged 33
B. _____ Woman aged 68
C. _____ Man aged 68

SECTIONS:

SECTION A: SCREENING
SECTION B: VIGNETTES
SECTION C: PRACTICE/PATIENT PROFILE
SECTION D: KNOWLEDGE/OPINIONS
SECTION E: GENERAL SCREENING AND DIAGNOSTIC ACTIVITIES
SECTION G: BARRIERS TO SCREENING
SECTION H: TRAINING FOR SUBSTANCE ABUSE TREATMENT
SECTION I: EXPERIENCES WITH SUBSTANCE ABUSE TREATMENT
SECTION F: FACTUALS

A. SCREENING

First I would like to ask you a few questions about your office-based practice.

BASE: COMPLETES AND SCREENOUTS

QD. How many patients do you see in your office-based practice in a typical week?

Range (0-1,000)

/__/__/__/__/ # Patients
(177-180)

Don't know .....(177(___- &
Refused .....(177(___ - -

IF # PATIENTS IN QD. < 30, SKIP TO Q200 IN FACTUALS SECTION (SCREEN OUT).

BASE: 209Z

PHYSICIANS WHO SEE 30+ PATIENTS PER WEEK (Q.D >30)

QF. What percentage of the patients you see in your office-based practice in a typical week are women?

Range (0-100)

/__/__/__/ % Women
(210-212)

Don't know .....(210(___- &
Refused .....(210(___ - -

ASK QG IF QF >0; OTHERS SKIP TO Q200 FACTUALS (SCREEN OUT).

BASE: PHYSICIANS WITH SOME FEMALE PATIENTS (QF > 0%)

QGCA. Among these women, what percentage would you say are 60 years of age and over?

Range (0-100)

/__/__/__/ % 60 and Over
(219-221)

Don't know .....(219(___- &
Refused .....(219(___ - -

CATI INSTRUCTION: IF (QF x QGCA) = OR > 10%, CONTINUE WITH SECTION B.
IF (QF X QGCA) < 10%, SKIP TO Q200 IN FACTUALS.

222-233Z

B. VIGNETTES

Now I would like to ask you about two hypothetical patient encounters.

CATI INSTRUCTION FOR VIGNETTE #1:
RANDOMLY ASSIGN 1 OF 3 VERSIONS: a 68-year old man, 68-year old woman, OR a 33-year old woman.

Q.1 33 Year old woman ..... (234(___ - 1
68 Year old woman ..... ___ -2
68 Year old man ..... ___ -3 235Z

BASE: ALL
20. In the first case, let's say a (33/68)-year old (man/woman) comes to your office with the following symptoms or characteristics: loss of energy, weight loss, irritability, chronic heartburn, and trouble sleeping.

21. Based on this information alone, what are the top five most likely diagnoses that come to your mind?
(DO NOT READ LIST, RECORD UP TO FIVE RESPONSES IN ORDER OF MENTION)

Alcohol abuse ..... (236(___ - 1 237Z
Depression ..... ___ -2
Cancer ..... ___ -3
Prescription medication misuse or abuse ..... ___ - 4
Over-the-counter medication misuse or abuse ..... ___ - 5
Combination alcohol and medications ..... ___ - 6
Heart disease ..... ___ - 7
Other (SPECIFY): (ANSWERED AT 21x)
_____ ..... (238(___ - 1

Don't know ..... (236(___ - & -SP
Refused ..... ___ - - -SP

BASE: ALL
25. To investigate what might be causing these symptoms, which screening or diagnostic tests would you be most likely to conduct, if any?
(DO NOT READ LIST, MULTIPLE RECORD)

Urine test ..... (239(___ - 1
Blood test ..... ___ - 2
CAT Scan ..... ___ - 3
Chest X-ray ..... ___ - 4
Depression evaluation ..... ___ - 5
EKG ..... ___ - 6
General medical history ..... ___ - 7
Stress evaluation ..... ___ - 8
CAGE (pronounced "cage") ..... ___ -9
TWEAK (pronounced "tweek") ..... (240(___ - 0
TACE (pronounced "t-dash-ace") ..... ___ - 1
Other (SPECIFY): (ANSWERED AT 25x)
_____ ..... (241(___ - 1
None (vol.) ..... (241(___ - 2 -SP
Don't know ..... (239(___ - & -SP
Refused ..... (239(___ - - -SP

C. PRACTICE/PATIENT PROFILE

Now I'd like to ask you a few questions about the types of patients you currently see in your office-based practice.

BASE: ALL

45. What are the top five health problems or conditions among female patients aged 60 and over that concern you the most (DO NOT READ LIST, RECORD FIVE)?

Alcohol abuse	(248(___ - 1
Arthritis	___ - 2
Breast cancer	___ - 3
Depression	___ - 4
Diabetes	___ - 5
Heart disease	___ - 6
Osteoporosis	___ -7
Over-the-counter medication misuse or abuse	___ -8
Prescription medication misuse or abuse	___ -9
Smoking	(249(___ - 0
Substance abuse	___ -1
Other (SPECIFY): (answered at 45X)	
_____	(250(___ - 1
Don't know	(248(___ - & -SP
Refused	(248)___ - - -SP

BASE: ALL

50. What percentage of your female patients aged 60 and over drink alcohol at least once a week?

Range (0-100)

/ / / / % Female patients aged 60+ drinking alcohol at least once a week

(251-253)

Don't know	(251(___ - &
Refused	(251(___ - -

BASE: ALL

55. What is the average number of prescription medications your female patients aged 60 and over are taking?

Range (0-1,000)

/ / / / / Average # prescription medications

(254-257)

Don't know	(254(___ - &
Refused	(254(___ - -

ASK Q60-Q85 IN SEQUENCE FOR EACH ITEM

BASE: ALL

60. What percentage of your female patients aged 60 and over do you suspect have problems with any of the following (READ EACH ITEM):
(IF NECESSARY: "ABUSE" is defined as problematic or dependent use.)

ROTATE, START AT "X"	(Range 0-100) %	Don't Know	Refused
( ) 60A. Alcohol abuse	/_/_/_/ (258-260)	(258(___ -&	(258(___ - -
( ) 65A. Tobacco use	/_/_/_/ (265-267)	(265(___ -&	(265(___ - -
( ) 70A. Prescription medication abuse	/_/_/_/ (272-274	(272(___ -&	(272(___ - -
( ) 75A. Over-the-counter medication abuse	/_/_/_/ (278-280)	(278(___ -&	(278(___ - -
( ) 80A. The combined use of medication and alcohol	/_/_/_/ (311-313)	(311(___ -&	(311(___ - -
( ) 85A. Illegal drug use	/_/_/_/ (317-319)	(317(___ -&	(317(___ - -

60B, 60X/65B, 65X = 261-264Z/268-271Z

320-323Z

BASE: PATIENTS WITH PRESCRIPTION MEDICATION PROBLEMS (Q70A > 0%)

70B. What types of prescription medications cause the greatest problems for these women in your practice?
(DO NOT READ LIST, MULTIPLE RECORD)

276Z

Anti-depressants/anti-anxiety pills	(275(___ -1	
Anti-hypertensives/blood pressure pills	___ -2	
Barbiturates	___ -3	
Benzodiazepines (like Xanax/Valium/Librium/Tranxene/ Ativan/Halcion)	___ - 4	
Diet pills	___ -5	
Pain medicine	___ -6	
Sleeping pills	___ -7	
Tranquilizers	___ -8	
Sedatives	___ -9	
Other (SPECIFY): (answered at 70X)		
_____	(277(___ - 1	
None (vol.)	(277(___ -2	-SP
Don't know	(275(___ - &	-SP
Refused	(275(___ - -	-SP

BASE: PATIENTS WITH OVER-THE-COUNTER MEDICATION PROBLEMS (Q75A > 0%)

75B. What types of over-the-counter medications cause the greatest problems for these women in your practice?
(DO NOT READ LIST, MULTIPLE RECORD)

309Z

Cold medicines.....(308(___ -1
Diet pills.....___ -2
Pain medicine (like aspirin, Tylenol, Advil, etc.).....___ -3
Other (SPECIFY): (answered at 75X)
_____.....(310(___ - 1
None (vol.).....(310(___ - 2 -SP
Don't know.....(308(___ - & -SP
Refused.....(308(___ - - -SP

BASE: PATIENTS WITH COMBINATION ALCOHOL AND MEDICATION PROBLEMS (Q80A > 0%)

80B. What types of medications combined with alcohol cause the greatest problems for these women in your practice?
(DO NOT READ LIST, MULTIPLE RECORD)

315Z

Anti-depressants/anti-anxiety pills.....(314(___ -1
Anti-hypertensives/blood pressure pills.....___ -2
Barbiturates.....___ -3
Benzodiazepines (like Xanax/Valium/Librium/Tranxene/ Ativan/Halcion).....___ - 4
Over-the-counter pain medicine (like aspirin, Tylenol, Advil, etc.).....___ -5
Over-the-counter sleeping medicine.....___ -6
Prescription pain medicine.....___ -7
Prescription sleeping medicine/tranquilizers/sedatives.....___ -8
Other (SPECIFY): (answered at 80X)
_____.....(316(___ - 1

None (Vol.).....(316(___ -2 -SP
Don't know.....(314(___-& -SP
Refused.....(314(___ - - -SP

BASE: PATIENTS WITH ALCOHOL ABUSE PROBLEMS (Q60A OR 80A > 0%)

90. What are the most common consequences of alcohol abuse among your female patients aged 60 and over? (DO NOT READ LIST, MULTIPLE RECORD)
(IF NECESSARY: "ABUSE" is defined as problematic or dependent use.)

325Z

Depression/anxiety.....(324(___ - 1
Headaches.....___ - 2
Insomnia.....___ - 3
Falls/injuries.....___ - 4
Memory loss.....___ - 5
Mental deterioration.....___ - 6
Nutritional deficiencies.....___ - 7
Social isolation/interpersonal problems.....___ - 8

Other (SPECIFY): (answered at 90X)
_____.....(326(___ - 1
None (vol.).....(326(___ - 2 -SP
Don't know.....(324(___ - & -SP

Refused .....(324(__ - - -SP

BASE: PATIENTS WITH PRESCRIPTION MEDICATION PROBLEMS (Q70A OR 80A > 0%)

92. What are the most common consequences of prescription medication abuse among your female patients aged 60 and over? (DO NOT READ LIST, MULTIPLE RECORD)
(IF NECESSARY: "ABUSE" is defined as problematic or dependent use.)

Depression/anxiety .....(327(__ - 1 328Z
Headaches ..... __ - 2
Insomnia ..... __ - 3
Falls/injuries ..... __ - 4
Mental deterioration/memory loss ..... __ - 5
Mental deterioration ..... __ - 6
Nutritional deficiencies ..... __ - 7
Social isolation/interpersonal problems ..... __ - 8

Other (SPECIFY):
_____ .....(329(__ - 1
None (vol.) .....(329(__ - 2 -SP

Don't know .....(327(__ - & -SP
Refused .....(327(__ - - -SP

BASE: ALL

95. In your opinion, how effective is substance abuse treatment generally for each of the following (READ EACH ITEM - very effective, somewhat effective, not very effective, or not at all effective?

ROTATE -- START AT "X"	Very Effective	Somewhat Effective	Not Very Effective	Not At All Effective	Don't Know	REF	
( ) a. Women aged 60 and over ..... (330(	__ - 1	__ - 2	__ - 3	__ - 4 .	__ -&	__ --	331Z
( ) b. Women younger than the age of 60 .. (332(	__ - 1	__ - 2	__ - 3	__ - 4 .	__ -&	__ --	333Z
( ) c. Men aged 60 and over ..... (334(	__ - 1	__ - 2	__ - 3	__ - 4 .	__ -&	__ --	335Z

BASE: ALL

100. In your opinion, is effective substance abuse treatment generally available to older adults, or not?
(IF NECESSARY: "Older" = 60 years of age and over)

Is available .....(336(__ -1 337Z
Is not available ..... __ - 2

Don't know ..... __ - &
Refused ..... __ - -

D. KNOWLEDGE/OPINIONS

Now I will read you a number of commonly-held beliefs about older adults.

BASE: ALL

105. Please tell me whether you agree strongly, agree somewhat, disagree somewhat, or disagree strongly with each of the following statements (READ EACH ITEM):

ROTATE -- START AT "X"	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly	Don't Know	REF	
( ) A. Older adults will benefit significantly from quitting smoking ..... (338(	__- 1	__- 2	__- 3	__- 4 .	__-&	__--	339Z
( ) B. Older adults will benefit significantly from stopping problem drinking. ..... (340(	__- 1	__- 2	__- 3	__- 4 .	__-&	__--	341Z
( ) C. Problem drinking among older women is a significant health problem. ..... (342(	__- 1	__- 2	__- 3	__- 4 .	__-&	__--	343Z
( ) D. The current class of sedatives and tranquilizers, known as benzodiazepines (benzo-di-ÁZ-e -peenes), is virtually risk-free in terms of side effects and long-term dependency..... (344(	__- 1	__- 2	__- 3	__- 4 .	__-&	__--	345Z
( ) E. Many physicians fail to address problem drinking among older patients because they believe drinking is one of the last few pleasures left for the elderly ..... (346(	__- 1	__- 2	__- 3	__- 4 .	__-&	__--	347Z
( ) F. Older women are more likely than younger women to hide problem drinking..... (348(	__- 1	__- 2	__- 3	__- 4 .	__-&	__--	349Z

BASE: ALL

A. In your opinion, how many drinks per day and/or per week constitute problem drinking for each of the following (READ EACH ITEM):

1 - per day answer
2 - per week answer
&- Don't know
- - Refused

110A. (350) [351Z]

112A. (358) [359Z]

114A. (366) [367Z]

116A. (374) [375Z]

ROTATE, START AT 'X'	B (Range: 0-100) # Drinks per day	C (Range: 0-100) # Drinks per week	Don't Know B	Don't Know C	Refused B	Refused C
( ) 110. Men aged 60 and over	/_/_/_/ (352-354)	/_/_/_/ (355-357)	__- & (352)	__ -& (355)	__- - (352)	__ - - (355)
( ) 112. Women aged 60 and over	/_/_/_/ (360-362)	/_/_/_/ 363-365)	__- & (360)	__ -& (363)	__- - (360)	__ - - (36?)
( ) 114. Women aged 40 to 60	/_/_/_/ (368-370)	/_/_/_/ (371-373)	__- & (368)	__ -& (371)	__- - (368)	__ - - (371)
( ) 116. Men aged 40 to 60	/_/_/_/ (376-378)	/_/_/_/ (408-410)	__- & (376)	__ -& (408)	__- - (376)	__ - - (408)

[379-380Z]

E. GENERAL SCREENING and DIAGNOSTIC ACTIVITIES

BASE: ALL

120. How often do your patients complete a patient assessment form - at every visit, every 6 months, every 6 to 12 months, at longer intervals, at the first visit only, or never?

412Z

At every visit ..... (411(___ - 1
Every 6 months ..... ___ - 2
Every 6-12 months ..... ___ - 3
At longer intervals ..... ___ - 4
At first visit only ..... ___ - 5
Never ..... ___ - 6
Other (vol.) (SPECIFY)
_____: ..... (413(___ - 1

Don't know ..... (411(___ - &
Refused ..... (411(___ - -

BASE: HAVE PATIENT ASSESSMENT FORM (Q120 /1, 2, 3, 4 or 5)

125. Which of the following health behaviors do you ask patients to report on your patient assessment form? (READ EACH ITEM)

	ROTATE, START AT 'X'	Patients Report	Patients Do Not Report	Don't Know	REF	
( )	A. Alcohol use	(414(___ - 1	___ - 2	___ - &	___ - -	415Z
( )	B. Use of over-the-counter medications	(416(___ - 1	___ - 2	___ - &	___ - -	417Z
( )	C. Use of prescription medications	(418(___ - 1	___ - 2	___ - &	___ - -	419Z
( )	D. Tobacco use	(420(___ - 1	___ - 2	___ - &	___ - -	421Z
( )	E. Illegal drug use	(422(___ - 1	___ - 2	___ - &	___ - -	423Z

BASE: ALL

130. Please tell me whether you administer any of the following screening instruments to older patients aged 60 and over in your office-based practice (READ EACH ITEM):

	ROTATE, START AT 'X'	Currently Administer to Older Patients	Do Not Administer to Older Patients	Don't Know	Ref.	
( )	A. CAGE (pronounced "cage")	(424(___ - 1	___ - 2	___ - &	___ --	425Z
( )	B. MMPI	(426(___ - 1	___ - 2	___ - &	___ --	427Z
( )	C. MAST, MAST-D, or MAST-G	(428(___ - 1	___ - 2	___ - &	___ --	429Z
( )	D. TWEAK (pronounced "tweek")	(430(___ - 1	___ - 2	___ - &	___ --	431Z
( )	E. TACE (pronounced "t-dash-ace")	(432(___ - 1	___ - 2	___ - &	___ --	433Z

BASE: ALL

141. During a typical visit with your older patients, how many minutes on average do you spend discussing each of the following? (READ EACH ITEM)
(IF NECESSARY: "Older" = 60 years of age and over)

	(Range 0-100) Avg. # Minutes	Don't know	Refused
( ) A. Alcohol	/__/__/ (434-436)	(434(___ - &	(434(___ - -
( ) B. Tobacco	/__/__/ (437-439)	(437(___ - &	(437(___ - -
( ) C. Prescription medications	/__/__/ (440-442)	(440(___ - &	(440(___ - -
( ) D. Over-the-counter medications	/__/__/ (443-445)	(443(___ - &	(443(___ - -

BASE: ALL

146. How often do you ask family members or other caretakers about older patients' use of each of the following (READ EACH ITEM): - always, sometimes, occasionally, or never?
(IF NECESSARY: "Older" = 60 years of age and over)

ROTATE -- START AT "X"	Always	Sometimes	Occasionally	Never	Don't Know	Refused	
( )A. Alcohol	(449(___ - 1	___ - 2	___ - 3	___ - 4	___ - &	___ - -	450Z
( )B. Tobacco	(451(___ - 1	___ - 2	___ - 3	___ - 4	___ - &	___ - -	
( )C. Prescription medications	(453(___ - 1	___ - 2	___ - 3	___ - 4	___ - &	___ - -	
( )D. Over-the-counter medications	(455(___ - 1	___ - 2	___ - 3	___ - 4	___ - &	___ - -	

G. BARRIERS TO SCREENING

BASE: ALL

150. In your opinion, what are the top five most significant barriers to effective screening procedures for substance abuse among older patients in all physician practices? (DO NOT READ LIST, RECORD UP TO FIVE)
(INTERVIEWER: PROBE FOR WHETHER BARRIER OCCURS ON THE PHYSICIAN OR PATIENT SIDE.)

Lack of time (PHY)	(459(___ - 1
Lack of knowledge (PHY)	___ - 2
Feelings of stigma (PHY)	___ - 3
Feelings of denial (PHY)	___ - 4
Discomfort discussing problem (PHY)	___ - 5
Belief that discussing substance abuse undermines trust in physician-patient relationship (PHY)	___ - 6
Belief that intervention is futile (PHY)	___ - 7
Lack of time (PNT)	___ - 8
Lack of knowledge (PNT)	___ - 9
Feelings of stigma (PNT)	(460(___ - 0
Feelings of denial (PNT)	___ - 1
Discomfort discussing problem (PNT)	___ - 2
Belief that discussing substance abuse undermines trust in physician-patient relationship (PNT)	___ - 3
Belief that intervention is futile (PNT)	___ - 4
Other (SPECIFY - at Q150x)	
_____	(461(___ - 1
No barriers (V)	(461(___ - 2
Don't know	(459(___ - &
Refused	(459(___ - -

BASE: FEELINGS OF STIGMA (PNT) (Q150 /0)

160. Do you believe these feelings of stigma are stronger for older women or for older men?

Older women	(462(___ - 1
Older men	___ - 2
Both (vol.)	___ - 3
Don't know	___ - &
Refused	___ - -

463Z

H. TRAINING FOR SUBSTANCE ABUSE TREATMENT

BASE: ALL

170. Where did you last receive any type of training in substance abuse - in medical school, during your residency, as part of your on-going professional education, somewhere else, or have you never received this type of training?

Medical school .....(464(___ - 1
Residency ..... ___ - 2
On-going professional education (CME) ..... ___ - 3
Somewhere else ..... ___ - 4
Never received substance abuse training ..... ___ -5

Don't know ..... ___- &
Refused ..... ___ - - 465Z

BASE: RECEIVED TRAINING (Q170 /1, 2, 3 or 4)

175. How long was the most recent substance abuse training you received?
(IF NECESSARY: PROMPT FOR # MONTHS, WEEKS, DAYS OR HOURS)

175A. (Answer in)

Months .....(466(___ - 1
Weeks ..... ___ - 2
Days ..... ___ - 3
Hours ..... ___ - 4
Don't know ..... ___- &
Refused ..... ___ - - 467Z

	175B Range (0-50) / / / # Months (468-469)	175C Range (0-50) / / / # Weeks (470-471)	175D Range (0-100) / / / #Days (472-474)	175E Range (0-100) / / / #Hours (475-477)
DK	(468) ___-&	(470) ___-&	(472) ___-&	(475) ___-&
Ref.	(468) ___- -	(470) ___- -	(472) ___- -	(475) ___- -

BASE: RECEIVED TRAINING (Q170 /1, 2, 3 or 4)

185. To what extent have you incorporated this training into your daily practice - to a great extent, to some extent, very little, or not at all?

Great extent .....(512(___ - 1
Some extent ..... ___ - 2
Very little ..... ___ - 3
Not at all ..... ___ - 4

Don't know ..... ___- &
Refused ..... ___ - - 513Z

I. EXPERIENCES WITH SUBSTANCE ABUSE TREATMENT

ASK Q190a AND Q190b IN SEQUENCE FOR EACH ITEM

BASE: ALL

A. In the past year, have you tried to refer older patients aged 60 and over for any of the following services, or not? (READ EACH ITEM)

BASE: TRIED TO REFER (Q190A or Q193A or Q195A /1)

B. Were you denied any of these referrals by an insurance company, or not?

	A.				B.			
ROTATE -- START AT "X"	Have Tried	Have Not	Don't Know	REF	Denied	Not Denied	Don't Know	REF
( )190. Mental health care	(514(__ - 1	__ - 2	__ - &	__--	(516(__ - 1	__ - 2	__ - &	__--
( )193. Substance abuse counseling or treatment	(518(__ - 1	__ - 2	__ - &	__--	(520(__ - 1	__ - 2	__ - &	__--
( )195. Nutritional counseling or therapy	(522(__ - 1	__ - 2	__ - &	__--	(524(__ - 1	__ - 2	__ - &	__--

F. FACTUALS

Now I have a few questions that will help us classify your answers. 526-528Z

BASE: COMPLETES AND SCREENOUTS

205. What percentage of your older patients aged 60 and over are enrolled in managed care plans? Please include the following in your estimate: discounted fee-for-service patients, HMO and PPO patients, and/or patients for whom you receive capitated payments.

Range (0-100)
/__/__/__/ % Patients in managed care
(529-531)

Don't know .....(529(__ - &
Refused .....__ - -

BASE: ALL

210. That completes the interview. Before concluding, I would like to confirm your address so that we can mail you the respondent summary
(CONFIRM ADDRESS LISTED ON SAMPLE RECORD).

Yes.....(532(__ - 1 533Z
No.....__ - 2

215. Name:
_____( )

220. Address: _____( )

225. City:
_____( )

230. State:_____ ( )

235. Zip:_____ ( )

Record from observation:

535-541Z

BASE: COMPLETES AND SCREENOUTS

(INTERVIEWER: IF UNCERTAIN, CHECK NAME OR SAY: "For verification purposes, I need to formally ask you whether you are male or female.")

250. Male.....(542(___ - 1
Female ..... ___ - 2

546-547Z

Thank you very much for your participation.

From Sample Record

Year of Graduation ..... (543-544)
U.S. trained.....(545(___-1
Foreign trained ..... ___-2

557-573Z

Respondent Weight Field 574-580

APPENDIX C

CASA Physician Survey Methodology

Sample Selection

The survey questionnaire was administered to a representative national cross section sample of 400 primary care physicians not specializing in addiction medicine (for the purpose of the survey, primary care physicians consisted of general practitioners, family practitioners, emergency medicine practitioners, obstetrician/gynecologists and internists). The interviews averaged approximately 15 minutes in length. Interviewing of the physicians took place between October 20, 1997 and December 2, 1997.

The completed interviews were weighted according to year of medical school graduation and medical training (United States vs. foreign). This weighting adjusted these key variables where necessary to their actual proportion among office-based, primary care physicians.

The Physician Sample

Louis Harris and Associates, Inc. purchased the national sample from Medical Marketing Services, Inc. (MMS). The list from which physicians were drawn includes all physicians listed in the American Medical Association's master files as of August, 1997. This includes both AMA members and non-members. Established in 1929, Medical Marketing Service Incorporated (MMS) was the first firm franchised by the American Medical Association (AMA) to manage the AMA Physicians Professional Data. Since then, MMS has been appointed to manage the membership of some of the nation's most prestigious healthcare organizations. MMS receives updates to the AMA database weekly, which allows Harris to select samples of Physicians using accurate, up to date information. Over 650,000 physicians are listed in the AMA file.

Sample Selection Criteria

The sample was selected on a random *nth* name basis, to produce a sample n of 5,000 records. The sample selection was restricted to physicians with one of the following primary medical specialty codes: family practice, group practice, internal medicine, obstetrics/gynecology, and emergency medicine. All physicians selected were coded in the data files as office-based and actively providing patient care (20 hours per week or more). The *nth* name selection procedure produced a nationally representative sample, proportionate by region, year-of-graduation, and specialty. Before fielding, the sample was divided by random nth into 10 replicates of 500 records each. This allowed small batches (replicates) of sample to be fielded in stages as needed to achieve the goal of 400 completes; each replicate retained the cross sectional characteristics of the total sample.

Additional selection criteria were used during interviewing. Interviewers screened to exclude physicians who did not see at least 30 patients per week, and for whom women 60 years of age and over comprised less than 10 percent of their patients. Twenty-four percent of the physicians who were willing to be interviewed were excluded for these reasons.

Sample Profile

A comparison of the achieved sample (unweighted) to the sampling frame reveals few differences in terms of a general physician profile. A somewhat larger proportion of physicians in the sample frame are categorized as internal medicine or emergency medicine. There are no significant differences, however, between the proportions who are categorized as family practitioners, general practitioners or OB/GYNs. There are no significant differences by geographic region or year of graduation from medical school.

Refusers are more likely than those who completed the survey (or screened-out) to be internists or in emergency medicine (38 percent vs. 31 percent) and they are somewhat less likely to be family practitioners (30 percent vs. 37 percent). Refusers are more likely than physicians who completed the survey (or screened out) to be located in the Midwest (30 percent vs. 21 percent), but the proportions in other regions of the country do not differ significantly. Refusers differ most significantly from physicians who completed the survey (or screened out) in terms of year of graduation from medical school. They also differ from the sample frame on this variable. Roughly three in 10 physicians in the sample frame and in the achieved sample graduated from medical school since 1983; only 15 percent of refusers graduated this recently.

Other physicians who were not interviewed, either because they were unavailable during the interviewing or were not eligible do not differ significantly from the sample frame or the achieved sample in terms of medical specialty, location or year of graduation.

Exhibit 1
Comparison of Sample Frame, Completed Interviews and Refuses, By Specialty, Region, and Year of Graduation

	Sample Frame Percent	Completes and Screen Outs* Percent	Refusals Percent	All Other Non-Interviews Percent
Family Practice	35	37	30	34
General Practice	10	11	13	10
OBG/GYN	17	20	19	17
Internal / Emergency Medicine	38	31	38	38
East	24	26	23	24
South	31	30	27	31
Midwest	23	21	30	23
West	22	22	20	21
Before 1970	28	30	36	28
1970 through 1982	41	43	50	41
1983 or later	31	27	15	31

*Unweighted sample

Overall, this analysis shows only minor differences in the demographic profile of the achieved sample and the sample universe, and the weights that were applied to the data adjust for these differences. The sample profile, however, provides a limited amount of information about how the achieved sample might differ from the sample frame. As with any sample survey, factors unrelated to sampling may lead to differential responses rates. It is difficult or impossible to assess how these differences might affect the survey results.

The procedures followed by Louis Harris and Associates, Inc., however, are designed to minimize differential response rates and other errors that are unrelated to sampling. These procedures are described in detail in another section of this methodology.

Weighting the Data

The 400 completed interviews and the 128 screen outs (those physicians without a minimum number of female patient visits per week) are weighted by type of training, U.S. or foreign, and by year of graduation in three ranges: before 1970, 1970 through 1982, and 1983 or later. Screen outs are included in the weighting to insure comparability with the weighting target source. The targets are derived from the original sample as selected. The calculated respondent

weights are quite small. Per weighting cell, the average respondent weights are 1.03 and 0.89 for U.S.- and foreign-trained physicians respectively, and 0.92, 0.94, and 1.17 for doctors graduating before 1970, 1970 through 1982, and 1983 or later, respectively.

Telephone Interviewing Procedures

All survey data collection was conducted from Harris' telephone research center in Youngstown, OH. Interviewing for this study was conducted by Harris' professional executive interviewing staff and was continuously monitored by the supervisory staff. Through direct supervision of the interviewing staff and continuous monitoring of the interviews, a uniformity of responses was achieved that could not have been obtained by other interviewing methods.

Control of the Sample

In order to maintain reliability and integrity of the sample, the telephone field staff adhered to the following procedures when attempting to contact respondents:

1. A non-answering telephone or answering machine was dialed nine more times on different days and at different times of the day. If more than one call was made on the same day -- at the request of physicians or their staff -- the calls were not counted as separate attempts.
2. If respondents or their staff misplaced the alert letter sent by Harris (see below), an additional copy was sent via fax, upon request.

3. Appointments were set at the physicians' convenience; if they preferred being called at another location, or during evening or weekend hours, accommodations were made.

4. Up to 10 attempts were made to arrange for an appointment with the physician.

Steps Taken To Reduce Self-Selection and Response Bias

In order to reduce self-selection and response bias, three potential sources were addressed: survey sponsorship (CASA), the targeted population of interest (women age 60 and over), and the targeted issue (substance abuse).

Survey Sponsorship. Since CASA's position as a leader in substance abuse research and education disclosure would most likely lead to self-selection and response bias (physicians giving responses they think would be more acceptable to this organization), CASA was not identified as the sponsor of the study. Physicians were told that the study was being conducted for researchers at Columbia University. If physicians inquired further, they were informed of CASA's sponsorship upon completion of the survey.

Targeted Population. The survey's targeted population of interest was masked in order to prevent possible response bias (physicians identifying the population and answering "favorably" for that particular group). The same series of questions were frequently asked about two or three groups of patients--for example, younger women, older men and older women. Furthermore, physicians were randomly assigned a "scenario" that varied by patient demographics (i.e. a younger woman, older man, older woman), but maintained uniform case descriptions of indicators of potential substance abuse.

Targeted Issue. To prevent physicians from providing only socially acceptable responses to questions about substance abuse, they were told that the purpose of the survey was to gain insights into how physicians prevent, screen and treat a number of conditions. Physicians were asked questions about identifying the top five health problems of women age 60 and over, their use of patient assessment forms, and referrals for mental health care and nutritional counseling or therapy.

Steps Taken to Improve the Physician Response Rate

There are significant difficulties inherent in interviewing physicians that may adversely affect the response of a survey. The following steps were taken to ensure a high response rate:

1. "Alert letters" were sent to potential respondents notifying them that they would be contacted, describing the nature and purpose of the survey, and offering them a financial incentive to encourage their participation.

2. A faxable appointment form, a toll-free telephone number, and an e-mail address were provided to respond to physician questions and set appointments.

3. Scheduling was arranged to allow for appointments between 8:30 a.m. and 12:00 midnight, seven days a week.

4. Physicians who completed the interview received a $40.00 honorarium and a summary of the survey's major findings.

Questionnaire Design

Based on CASA's review of the literature regarding substance abuse and addiction among women age 60 and over, and Louis Harris' survey expertise, CASA and Louis Harris collaborated to design the questionnaire. In addition, we consulted a panel of seven physicians who assisted with the design of the hypothetical vignette: Corinne Husten, M.D., Acting Chief, Epidemiology Branch, Office of Smoking & Health, Center for Disease Control & Prevention, Herbert Kleber, M.D., Executive Vice President & Medical Director, CASA, Francis Levin, M.D., Assistant Professor of Clinical Psychology, Columbia University, Jeffrey Nichols, M.D., Chief, Geriatric Medicine, Cabrini Medical Center, Herbert Pardes, M.D., Vice President for Health Sciences and Dean of the Faculty of Medicine, College of Physicians & Surgeons at Columbia University, Carlotta Schuster, M.D., Director, Recovery Clinic, New York University, and Joanne

Schwartzberg, M.D., Director, Department of Geriatric Health, American Medical Association. Each of these physicians received a draft of the vignette and were consulted by phone regarding its accuracy and portrayal of clinical practice.

Sample Disposition

The table below provides a breakdown of the sample for this survey. Fifty percent of the physicians we contacted completed the interview (400/801), among eligible physicians the response rate is 65 percent (400/609) (see the footnote below table A2). Sixteen percent of the physicians we spoke to (128/801) were not eligible because they did not see enough patients or had too few patients who were women age 60 and over. One-fourth (27 percent) of the physicians we spoke to (221/801) refused to be interviewed (218) or began but did not complete the interview (3). Six percent of the physicians we spoke to could not be interviewed before the end of the interview phase (52/801).

Exhibit 2
Sample Disposition

Physicians contacted:	Number	Percent
Complete	400	50
Refusal	218	27
Eligible, terminated interview	3	*
Not available before end of interviewing	52	6
Screen out: See fewer than 30 patients per week	39	5
Screen out: Less than 10 percent of patients are women age 60 and over	89	11
Total contacts:	801	100
Eligible contacts*	609	76
No contact:		
Non-working phone number, no new listing	18	18
Not eligible, retired, deceased, not practicing	372	372
Not eligible, language barrier	5	5
In callback status (no contact w/ physician)	721	721
Total	1917	1917
Percent of eligibles who completed	-	65 percent
Percent of eligibles who refused	-	35 percent

* An eligibility rate may be calculated based on the ratio of total completes to contacts, this ratio is 76 percent (400:528). Assuming that the eligibility rate is consistent between physicians who completed the interview and those who refused, terminated or were not available, we can estimate the percent of eligible physicians who completed the interview and refused.

The Use of Computer Assisted Telephone Interviewing

The Harris computer assisted telephone interviewing system (CATI) permits on-line data entry and editing of telephone interviews. Questionnaires are programmed into the system with the following checks:

1. Question and response series
2. Skip patterns
3. Question rotation
4. Range checks
5. Mathematical checks
6. Consistency checks
7. Special edit procedures

The CATI system reduces clerical error by eliminating the need for keypunching, since interviewers enter the respondents' answers directly into a computer during the interview itself. For questions with pre-coded responses, the system only permits answers within a specified range; for example, if a question has three possible answer choices (e.g., "Provides", "Does not provide", "Not sure"), the CATI system will only accept coded responses corresponding to these choices. All data is tabulated, checked for internal consistency and processed by computer. A series of computer-generated tables is then produced for each sample group showing the results of each survey question, both by the total number of respondents and by important subgroups.

Editing and Cleaning the Data

The data processing staff perform machine edits and additional cleaning for the entire data set. Louis Harris' edit programs act as a verification of the skip instructions and other data checks that are written into the CATI program. The edit programs list any errors by case number, question number and type. These were then resolved by senior EDP personnel, who inspected the original file and made appropriate corrections. Complete records were kept of all procedures.

Reliability of Survey Percentages

The results from any sample survey are subject to sampling variation. The magnitude of this variation is measurable and is affected both by the number of interviews involved and by the level of the percentages expressed in the results.

Table A-1 shows the range of sampling variation that applies to percentage results for this survey. The chances are 95 in 100 that the survey results do not vary, plus or minus, by more than the indicated number of percentage points from the results that would have been obtained had interviews been conducted with all persons in the universe represented by the sample.

For example, if the response for a sample size of 400 is 30 percent, then in 95 out of 100 cases the response of the total population would be between 26 percent and 34 percent. Note that survey results based on subgroups of a small size can be subject to large sampling error.

Exhibit 3
Approximate Sampling Tolerances (At 95 Percent Confidence) To Use In Evaluating Percentage Results Appearing In This Report

Number Of People Asked Question On Which Survey Result Is Based	Survey Percentage Result At 10 Percent Or 90 Percent	Survey Percentage Result At 20 Percent Or 80 Percent	Survey Percentage Result At 30 Percent Or 70 Percent	Survey Percentage Result At 40 Percent Or 60 Percent	Survey Percentage Result At 50 Percent
400	3	4	4	5	5
300	3	5	5	6	6
200	4	6	6	7	7
100	6	8	9	10	10
50	8	11	13	14	14

Sampling tolerances are also involved in the comparison of results from different surveys or from different parts of a sample (subgroup analysis). Table A-2 displays the percentage difference that must be obtained before a difference can be considered statistically significant. These figures also represent the 95 percent confidence level.

For example, suppose that one group of 200 has a response of 34 percent "yes" to a question, and an independent group of 100 has a response of 28 percent "yes" to the same question, for an observed difference of six percentage points. According to the table, this difference is subject to a potential sampling error of 11 percentage points. Since the observed difference is not greater that the sampling error, the observed difference is not considered significant.

These errors account for sampling error only. Survey research is also susceptible to other errors, such as in data handling and in interviewer recording. The procedures followed by Louis Harris and Associates, however, keep errors of these kinds to a minimum.

Exhibit 4
Approximate Sampling Tolerances (At 95 Percent Confidence) To Use In Evaluating Differences Between Two Percentage Results Appearing In This Report

Approximate Sample Size Of Two Groups Asked Question On Which Survey Result Is Based	Survey Percentage Result At 10 Percent Or 90 Percent	Survey Percentage Result At 20 Percent Or 80 Percent	Survey Percentage Result At 30 Percent Or 70 Percent	Survey Percentage Result At 40 Percent Or 60 Percent	Survey Percentage Result At 50 Percent
300 vs. 300	5	6	7	8	8
200	5	7	8	9	9
100	7	9	10	11	11
50	9	12	14	15	15
200 vs. 200	6	8	9	10	10
100	7	10	11	12	12
50	9	12	14	15	15
100 vs. 100	8	11	13	14	14
50	10	14	16	17	17
50 vs. 50	12	16	18	19	20

CATI System Used in Interviews

An example of these procedures is the Harris CATI system -- computer-assisted telephone interviewing -- which was used for this survey. This system controls complicated skip patterns based on individual responses during the course of the interview, and it also allows consistency checks to be built in for key items. It furthermore reduces clerical error by eliminating the need for keypunching, since interviewers enter the respondents' answers directly into a computer terminal during the interview.

APPENDIX D

Databases

CASA's data analysis of prevalence and correlates of substance use and abuse among women and men age 60 and over was based on data from two national databases:

1. The 1995 National Household Survey on Drug Abuse (NHSDA) is an annual national survey of the prevalence and correlates of substance use in the U.S., sponsored by the Substance Abuse and Mental Health Services Administration in the U.S. Dept. of Health and Human Services. The NHSDA contains an unweighted sample of 17,747 adults. Of them, 422 are women age 60 and over and 233 are men age 60 and over. Data in this report have been weighted to make them nationally representative.

2. The Health and Retirement Study (HRS) is a national longitudinal study that focuses on individuals born between 1931 and 1941, and their health, retirement and economic status. Funded primarily by the National Institute on Aging, the study is conducted by the Survey Research Center at the University of Michigan in Ann Arbor, MI. Interviews for the 1995 HRS took place in 1993. The HRS is an unweighted sample of 12,652 adults. Of them, 1,080 are women age 60 and over and 1,871 are men age 60 and over.

Although the 1995 HRS contains a larger sample of adults age 60 and over than does the 1995 NHSDA, the HRS sample is heavily concentrated among older women under age 65. As a result, most of the data in this report comes from the 1995 NHSDA.

CASA tested comparisons of percentages using this data for statistical significance. Comparisons that are not statistically significant at a level of $p<0.05$ are noted as such in the text or footnotes.

APPENDIX E

CASA Health Care Cost Analysis Methodology

Framework for the Analysis

The health care cost analysis used in this study is premised on an earlier methodology developed by CASA.* Our analysis of the costs of substance abuse-related illnesses involves only an estimate of direct costs. In the context of health care, direct costs include expenditures for treatment of a substance abuse-related illness or injury, while indirect costs are a measure of lost resources (e.g. lost income) resulting from the substance abuse-related illness or injury.

Direct health care costs attributable to substance abuse are those expenditures related to the provision of health services for diagnoses which are either entirely or in part caused by substance use. In general, these costs include health services provided on an inpatient or outpatient basis, involving short-term hospitals, nursing homes, psychiatric facilities, outpatient physician visits and ambulatory or emergency hospital care. For this analysis of women age 60 and over, CASA examined only expenditures related to inpatient and nursing home stays. Thus, the analysis substantially underestimates total direct costs.

The analysis includes alcohol, tobacco, illicit drugs and psychoactive drugs. "Substance abuse" in the context of health care costs is defined as *any* substance use which causes or contributes to negative health outcomes.

Calculation of the direct costs attributable to substance abuse involved extensive background research by CASA on the association between substance abuse and its health consequences. Our analysis uses the epidemiological tool: Population Attributable Risk (PAR) value. A PAR value is a measure of the portion of cases for a particular substance abuse-related diagnosis which could have been avoided in the complete absence of substance abuse.

The Calculation of Population Attributable Risk (PAR) Values

Substance abuse related diagnoses fall into one of two categories: those whose costs are entirely attributable to substance use and those whose costs are only partially attributable to substance use. The first category of diagnoses have a PAR value of 100 percent. (A list of them is attached as EXHIBIT 1.) The second category have a PAR value of greater than 0 percent but less than 100 percent. (A list of them is attached as EXHIBIT 2).

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* National Center on Addiction and Substance Abuse at Columbia University (1995). *Substance abuse and federal entitlements programs*. New York: CASA; National Center on Addiction and Substance Abuse at Columbia University (1993). *Cost of substance abuse to America's health care system, Report 1: Medicaid hospital costs*. New York: CASA; National Center on Addiction and Substance Abuse at Columbia University (1994). *Cost of substance abuse to America's health care system, Report 2: Medicare hospital costs*. New York: CASA.

The PAR values in our analysis were stratified according to type of substance and if possible, by age and gender. CASA constructed the list of diagnoses for PAR values of 100 percent on the basis of previous research by both the National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the National Institute on Drug Abuse (NIDA). For alcohol-related diagnoses with PAR values of less than 100 percent, we used attributable fractions published by NIAAA and included three additional diagnoses based on conversations with NIAAA.[*] All of the diagnoses in this list were derived from research linking substance abuse with diseases in both men and women and include, but are not specific to individuals age 60 and over. For psychoactive drug use, we used two PARs below 100 percent, based on a study by Ray, et al (1987).[†] This study is based on a sample of Medicaid recipients, of which 77 percent were female, but is not limited to the elderly population. Tobacco-related PAR values were calculated using relative risk ratios from a study by Schultz, et al (1991).[‡] The relative risk values in this study are specific for women but not for ages 60 and over.

The formula for calculating PAR values for a particular disease is as follows:[§]

$$PAR = \frac{P(RR - 1)}{P(RR - 1) + 1}$$

Where:

- **RR (Relative Risk)** is an estimate of the strength of an association between exposure and disease and expresses the likelihood of developing the disease in the substance-exposed group related to the likelihood of developing the disease in the unexposed group.

$$RR = \frac{\text{incidence rate of disease in exposed group}}{\text{incidence rate of disease in unexposed group}}$$

- **P** is the prevalence rate of substance abuse in the population

Because prevalence rates can be measured in gradations according to "former," "current" and "non-smoker," the formula is modified to account for these different prevalence rates for women 60 and over: [**]

$$PAR = \frac{[P_0 + P_1(RR_1) + P_2(RR_2)] - 1}{[P_0 + P_1(RR_1) + P_2(RR_2)]}$$

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[*] U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health & National Institute on Alcohol Abuse and Alcoholism (1996). *State trends in alcohol-related mortality: 1979-92.* (Vol. 5). Bethesda, MD: NIAAA.

[†] Ray, W., Griffin, M., Schaffner, W., Baugh, D. & Melton, L. (1987). Psychotropic drug use and the risk of hip fracture. *New England Journal of Medicine*, *316*(7), 363-369.

[‡] Shultz J., Novotny, T. & Rice, D. (1991). Quantifying the disease impact of cigarette smoking with SAMMEC II software. *Public Health Reports*, *106*(3), 326-333.

[§] Lilienfeld, D. & Stolley, P. (1994). *Foundations of Epidemiology* (3rd edition). Oxford: Oxford University Press.

[**] Shultz J., Novotny, T. & Rice D. (1991). Quantifying the disease impact of cigarette smoking with SAMMEC II software. *Public Health Reports*, *106*(3), 326-333.

Where:

- P_0 is the prevalence rate of never smokers
- P_1 is the prevalence rate of current smokers
- P_2 is the prevalence rate of former smokers
- RR_1 is the relative risk of current smokers relative to never smokers
- RR_2 is the relative risk for former smokers relative to never smokers

We applied prevalence rates for women 60 and over from the National Household Survey on Drug Abuse 1995 to calculate the PAR values for specific diagnoses for women 60 and over.

Smoking Prevalence Rates for Women 60 and Over and Men 60 and Over by Smoking Status

	Female (%)	Male (%)
Never	35.1	11.9
Current	17.3	19.8
Former	47.6	68.3

Estimating Health Care Costs

To estimate inpatient and nursing home charges attributable to substance abuse for women 60 and over, we analyzed three databases:

Short Stay Inpatient Hospital. We used the Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, Release 3, 1994 to estimate the short stay inpatient health care costs for women age 60 and over attributable to substance abuse. This data set is a national sample of over 900 community hospitals in 17 states using approximately 6.4 million records. Because of the size of this database, our analysis relied on a 10 percent sub-sample of their cases. Among the variables included in the database are primary and secondary diagnosis, length of stay, age, gender, primary expected payer and total charges. Our estimates of substance abuse related charges were analyzed according to three payer categories: Medicare, Medicaid and private payers. A small portion of the private payer category (3 percent) includes non-private payers such as Champus, the health benefits program for the uniformed services and Champva, the health benefits program for surviving relatives of deceased veterans.

An alternative data set which could have been used is the National Hospital Discharge Survey, 1995. This is a survey of approximately 500 short stay hospitals in the US administered by the National Center for Health Statistics. Data is collected through a random sample of about 2,000 patient medical records. However, we used the HCUP survey because it had a larger sample size for women age 60 and over (n=140,000).

There are three levels of analysis for estimating inpatient health care costs attributable to substance abuse for women 60 and over. The first level involves an analysis of the diseases where substance abuse is the primary causal factor. All diagnoses in this level of analysis are assigned a PAR value of 100 percent. Charges were analyzed by primary expected payer and type of substance.

The second level of analysis uses the same fundamental principle to capture the appropriate proportion of substance abuse-related diagnoses which are less than 100 percent. We multiplied the total charges for these diagnoses by the proportion of attributable cases for each diagnosis. Several diagnoses have two different PAR values corresponding with tobacco and alcohol use. Because of the substantial overlap in smoking and alcohol use, we assumed 100 percent overlap and applied the higher PAR value for these diagnoses. Again, substance abuse attributable charges were analyzed by primary expected payer and by type of substance.

The third level of analysis measures the costs of substance abuse comorbidity. Even when there is a primary diagnosis unrelated to a substance abuse problem, a secondary substance abuse diagnosis can exacerbate the severity and cost of treating the primary diagnosis. These incremental costs are estimated by comparing the average charge per person with a secondary substance abuse diagnosis with the charge per person for the same primary diagnosis without a secondary substance abuse diagnosis. We multiplied the difference in charges by the weighted number of people with that primary diagnosis and a secondary substance abuse condition to calculate total attributable charges. We excluded all primary substance abuse-related diagnoses in this analysis, since either all or a portion of the charges for these diagnoses have been included in the first or second level of analysis. Again, substance abuse attributable charges were analyzed by primary expected payer and by type of substance.

Although previous studies of substance abuse comorbidity for inpatient short stay facilities have found significant increases in length of stay for patients with a secondary substance abuse related condition, our results for this level of analysis were mixed.[*] In approximately half of the cases, total charges and average length of stay for patients with substance abuse comorbidity were *less* than the group with the same primary diagnosis and no secondary substance abuse condition. CASA subtracted the negative charges from the positive charges to calculate the net charges for substance abuse comorbidity.

There are several possible explanations for the finding that comorbidity costs were lower in many cases than those with no substance abuse diagnosis. Small sample size within each diagnosis could skew results and a complicated file structure in the survey did not allow us to prioritize among 14 secondary conditions. An earlier study by CASA also found mixed results in its analysis of substance abuse comorbidity in the Medicare population for inpatient hospital visits.[†] According to this study, the average increase in length of stay for patients with substance abuse comorbidity was .7 days, while for the Medicaid population, the average length of stay was twice that for patients without a secondary substance abuse-related condition. The report noted several possible explanations for the findings: underreporting of secondary substance abuse problems in elderly patients, early discharge against medical advice, premature death, early discharge to other facilities such as nursing homes and the social or financial undesirability of treating elderly patients with substance abuse comorbidity.

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[*] Rice, D. & Kelman, S. (1989). Measuring comorbidity and overlap in the hospitalization cost for alcohol and drug abuse and mental illness. *Inquiry, 26*, 249-260; National Center on Addiction and Substance Abuse at Columbia University. (1993). *Cost of substance abuse to America's health care system, Report 1: Medicaid hospital costs*. New York: CASA.

[†] Center on Addiction and Substance Abuse at Columbia University (1994). *Cost of Substance Abuse to America's Health Care System, Report 2: Medicare Hospital Costs*. New York: CASA.

Long Stay Inpatient Hospital. CASA also used an analysis of charges for substance abuse treatment provided to mature women at long stay hospitals. This analysis was conducted for CASA by the Health Care Finance Administration using the MEDPAR database of inpatient Medicare charges. While short stay inpatient hospital charges reflect services provided at acute care hospitals, long stay hospitals charges reflect care provided in psychiatric and rehabilitative hospitals. The long stay analysis included only the Diagnosis Related Groups (DRGs) related to treatment of substance abuse per se. Because it did not include treatment for illness and injury caused by substance abuse, this analysis underestimates the total costs attributable to substance abuse in long stay hospitals.

National Nursing Home Survey. To estimate the substance abuse-related health care costs for women age 60 and over in nursing homes, we used the National Nursing Home Survey (NNHS), 1995. NNHS is a nationwide sample of nursing home visits collected by the National Center for Health Statistics. Variables in the survey include primary and secondary diagnosis at admission, primary and secondary diagnosis at discharge, age, sex, primary expected payer and total charges. Data in the survey is collected from a combination of personal interviews and self-enumerated forms with administrators, accountants and medical records specialists. The survey contains information on 8,056 current residents from 1,409 nursing homes.

Because nursing home length of stay is sensitive to extraneous factors other than primary diagnosis, we developed a different methodology for estimating nursing home costs attributable to substance abuse. Surveys have estimated that 20 percent to 50 percent of nursing home residents are alcoholic or problem drinkers.* In addition, research has indicated that, on average, 13.5 percent of Medicaid nursing home expenses are attributable to smoking-related disease and injury.† Because the overlap between heavy drinking and smoking is believed to be substantial, we conservatively assumed 100 percent overlap and used only the estimate of alcohol-related nursing home admissions to calculate substance abuse-related nursing home costs (multiplying 20 percent by total nursing home costs). This is likely to underestimate total costs attributable to substance abuse.

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* U.S. House of Representatives, Select Committee on Aging, Subcommittee on Health and Long-Term Care. (1992). *Alcohol abuse and misuse among the elderly: Hearing before the Subcommittee on Health and Long-Term Care of the Select Committee on Aging, House of Representatives, One Hundred Second Congress, second session, February 4, 1992.* Washington, DC: U.S. G.P.O.; Smart, R. G., & Liban, C. B. (1981). Predictors of problem drinking among elderly, middle-aged and youthful drinkers. *Journal of Psychoactive Drugs, 13*(2), 153-163; Gomberg, E. S. L. (1982). *Alcohol use and alcohol problems among the elderly.* In *Alcohol and health monograph no. 4: Special population issue*, 263-290. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Alcohol, Drug Abuse and Mental Health Administration.

† Miller, L., Zhang, X., Novotny, T., Rice, D. & Max, W. (1998). State estimates of Medicaid expenditures attributable to cigarette smoking, fiscal year 1993. *Public Health Reports, 113,* 140-151.

To calculate the nursing home costs attributable to substance abuse among women age 60 and over, we first calculated the average cost per resident ($48,560) by dividing total nursing home expenditures in 1995 ($75.2 billion) by the total number of residents on a given day (1,548,600).* This gave us the average annual cost per "resident," which in some cases actually reflects the average cost of a collection of residents who stay for short terms--six to two months, for example. To estimate total nursing home spending on women age 60 and over, we multiplied this average cost per resident by the number of women age 60 and over in nursing homes on a given day (1,087,761), as taken from the NNHS. We then multiplied this number ($52.8 billion) by 20 percent.

Applying inflation rates and projecting population growth. To inflate total substance abuse-related inpatient and nursing home charges to 1998 levels, we applied health expenditure inflation rates for the inpatient hospital and nursing home sectors. Because inflation rates are not yet known for years since 1996, we applied a three-year average inflation rate (1994, 1995 and 1996) to the years of 1997 and 1998.† We also accounted for growth in the population of women age 60 and over, as projected by the U.S. Census Bureau.‡

Hospital Admissions Related to Substance Abuse

We used the HCUP-3 Nationwide Inpatient Sample (NIS) to estimate the number of substance abuse-related short stay hospital admissions as a percentage of total admissions for women 60 and over. The total number of substance abuse-related admissions was calculated by adding the number of admissions for diagnoses with a PAR value of 100 percent and the number of admissions for diagnoses with a PAR value greater than 0 percent and less than 100 percent. As with the cost estimates, the number of substance abuse related admissions was analyzed by payer. We compared the number of substance abuse-related admissions with admissions for non-substance abuse-related myocardial infarction. (A list of the ICD-9 codes for myocardial infarction appears in EXHIBIT 3.) Results from an earlier study on substance abuse-related admissions in the elderly population found comparable rates of hospitalizations for substance abuse-related diagnoses and myocardial infarction.§ After excluding myocardial infarction admissions that are attributable to substance abuse, CASA's analysis revealed significantly higher admissions for substance abuse-related diagnoses than for non-substance abuse-related admissions for heart attacks.

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* Levit, K. R., Lazenby, H. C., Braden, B.R., Cowan, C.A., Sensenig, A.L., McDonnell, P.P., Stiller, J.M., Won, D.K., Martin, A.B., Sivarajan, L., Donham, C.S., Long, A.M. & Stewart, M.W. (1997). National health expenditures, 1996. *Health Care Financing Review, 19* (1), 161-200; Strahan, G. W. (1997). An overview of nursing homes and their current residents: Data from the 1995 National Nursing Home Survey. *Advance Data*, No. 280, Centers for Disease Control and Prevention.

† *Economic Trends.* (1996). *13*(1); *National Hospital Panel Survey Report.* (1997). Chicago, IL: American Hospital Association; Levit, K. R., Lazenby, H. C. Braden, B.R., Cowan, C.A., Sensenig, A.L., McDonnell, P.P., Stiller, J.M., Won, D.K., Martin, A.B., Sivarajan, L., Donham, C.S., Long, A.M. & Stewart, M.W. (1997). National health expenditures, 1996. *Health Care Financing Review, 19* (1), 161-200.

‡ Day, J. C. (1996). *Population projections of the United States by age, sex, race and hispanic origin: 1995 to 2050.* Washington, DC: U.S. Bureau of the Census, Current Population Reports, P25-1130, U.S. Government Printing Office.

§ Adams, W., Yuan, X., Barboriak, J. & Rimm, A. (1993). Alcohol-related hospitalizations of elderly people, *JAMA, 270*(10), 1222-1225.

Health Care Financing for Women 60 and Over: Costs, Charges and Payments

Financing of health care services for women 60 and over is provided by a mixture of both public and private sources. The two primary sources of publicly provided health care financing for women 60 and over are Medicaid and Medicare. Medicare is a federally funded health insurance program for people 65 and older and also covers some persons with disabilities and chronic kidney disease. Medicaid is a joint federally and state funded national health insurance program whose eligibility is determined by income and need. Medicaid covers children, the aged, blind and/or disabled, and persons eligible for other federal assistance. Non-public forms of health care financing for women age 60 and over include private insurance and out-of-pocket payments.

Rising health care costs in recent years have incited changes in health care financing structures by both public and private payers. Medicare, for instance, reimburses hospital visits according to DRGs, which combine series of International Classification of Diseases (ICD) numbers to reflect procedures, discharge status and other relevant criteria for diagnosed conditions. The same reimbursement logic is applied to outpatient physician visits using Resource Based Relative Value Scale (RBRVS).

These changes have created dichotomies between charges (bills sent to payers), payments (compensation provided by payers) and costs (actual economic costs of health care service provision). Payments are usually less than both charges and, to a smaller extent, costs. According to data from the American Hospital Association, on average, Medicare fee-for-service payments for hospitals equal only 55 percent of charges.* Actual payments vary according to payer, provider type and between providers. In terms of payments and costs, the Medicare Payment Advisory Commission (MedPAC) estimated that 1995 Medicare payments were only 0.5 percent lower than hospital costs.†

In the CASA analysis, we used charges to the primary expected payer as an indicator for the distribution of charges *and* costs to Medicare, Medicaid and all other payers. In the absence of data on the relationship between charges and costs, a more sensitive analysis of costs would estimate them by applying a ratio of payments to charges, and then of payments to costs. We did not do this because payment to charge ratios may vary substantially by payer, and CASA could not find such data for Medicare managed care, Medicaid and other payers. In sum, charges provide only a general estimate for costs attributable to substance abuse.

PAR Values: Morbidity vs. Mortality

The PAR values for both tobacco- and alcohol-related diagnoses are based on research linking substance abuse and mortality from a substance abuse-related condition. An analysis of health care costs attributable to substance abuse ideally requires measurements of

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* Personal communication, (4/17/98), Jack Ashby, Medicare Payment Advisory Commission.

† Prospective Payment Assessment Commission (1997). Medicare and the American health care system: Report to the Congress, Washington, DC: Prospective Payment Commission.

substance abuse morbidity resulting from substance abuse. Using mortality attributable fractions underestimates substance abuse-related health care costs because mortality data exclude all nonfatal conditions caused by alcohol and tobacco.*

Both mortality and morbidity rates for substance abuse-related diagnoses are generally lower for older adults than the general population because the risk of illness or death from other causes is higher. As a result, CASA's use of mortality rates, based on research with samples that include but are not limited to older adults, likely overestimates costs.

The Diagnosis of Substance Abuse

To measure costs, this analysis relies entirely on physician diagnoses of substance abuse disorders and substance abuse-related conditions. While their accurate diagnosis of related conditions is not fundamentally in dispute, their diagnosis of substance disorders is widely believed to be a serious underestimate of the extent--and therefore the costs--of the problem.

Several studies have demonstrated that physicians fail to recognize the signs of a substance disorder in their patients.† For example, research has indicated that in 21 to 24 percent of all dementia cases, alcohol may be a contributing or causal factor, but that medical records rarely note the presence of alcohol use or abuse.‡

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* National Institute on Drug Abuse & National Institute on Alcohol Abuse and Alcoholism. (1998). *The Economic Costs of Alcohol and Drug Abuse in the United States, 1992.* Rockville, MD: US Department of Health and Human Services, National Institute on Drug Abuse, Office of Science Policy and Communications, National Institute on Alcohol Abuse and Alcoholism, Office of Policy Analysis.

† Saitz, R., Mulvey, K. P., Plough, A., & Samet, J. H. (1997). Physician unawareness of serious substance abuse. *American Journal of Drug and Alcohol Abuse, 23*(3), 343-354; Dawson, D. A. (1994). Are men or women more likely to stop drinking because of alcohol problems? *Drug and Alcohol Dependence, 36*(1), 57-64; Dawson, N. V., Dadheech, G., Speroff, T., Smith, R. L. & Schubert, D. S. P. (1992). The effect of patient gender on the prevalence and recognition of alcoholism on a general medicine inpatient service. *Journal of General Internal Medicine, 7*(1), 38-45; Walsh, D. C., Hingson, R. W., Merrigan, D. M., Levenson, S. M., Coffman, G. A., Heeren, T. & Cupples, L. A. (1992). The impact of a physician's warning on recovery after treatment. *JAMA, 267*(5), 663-667; Moore, R. D., Bone, L. R., Geller, G., Mamon, J. A., Stokes, E. J. & Levine, D. M. (1989). Prevalence, detection and treatment of alcoholism in hospitalized patients. *JAMA, 261*(3), 403-407; Curtis, J. R., Geller, G., Stokes, E. J., Levine, D. M. & Moore, R. D. (1989). Characteristics, diagnosis and treatment of alcoholism in elderly patients. *Journal of the American Geriatrics Society, 37*(4), 310-316; Bush, B., Shaw, S., Cleary, P., Delbanco, T. L. & Aronson, M. D. (1987). Screening for alcohol abuse using the CAGE questionnaire. *American Journal of Medicine, 82*(2), 231-235; Coleman, P. R. & Veach, T. L. (1990). Substance abuse and the family physician: A survey of attitudes. *Substance Abuse, 11*(2), 84-93.

‡ Herring, R. (1997). Alcohol misuse in older people: The role of home carers. *Health and Social Care in the Community, 5*(4), 237-245.

Exhibit 1
ICD-9 Codes for Diagnoses 100% Attributable to Substance Abuse

Alcohol

Organic Psychotic Conditions
(291) Alcoholic Psychoses
291.0 Alcohol withdrawal delirium
291.1 Alcohol amnestic syndrome
291.2 Other alcoholic dementia
291.3 Alcohol withdrawal hallucinosis
291.4 Idiosyncratic alcohol intoxication
291.5 Alcoholic jealousy
291.8 Other specified alcoholic psychosis
291.9 Unspecified alcoholic psychosis
Neurotic Disorders, Personality Disorders, and other Nonpsychotic Mental Disorders
(303) Alcohol Dependence Syndrome
303.0 Acute alcoholic intoxication
303.9 Other and unspecified alcohol dependence
(305) Nondependent Abuse of Drugs
305.0 Alcohol abuse
Disorders of the Peripheral Nervous System
(353) Gastritis and duodentitis
535.3 Alcoholic gastritis
(357) Inflammatory and toxic neuropathy
357.5 Alcoholic polyneuropathy
Other Forms of Heart Disease
(425) Cardiomyopathy
425.5 Alcoholic cardiomyopathy
Other Diseases of Digestive System
(571) Chronic liver disease and cirrhosis
571.0 Alcoholic fatty liver
571.1 Acute alcoholic hepatitis
571.2 Alcoholic cirrhosis of the liver
571.3 Alcoholic liver damage, unspecified
Nonspecific Abnormal Findings
(790) Nonspecific findings on examination of blood
790.3 Excessive blood level of alcohol
Accidental Poisoning by Other Solid and Liquid Substances, Gases and Vapors
(E860) Accidental poisoning by alcohol, not elsewhere classified
E860.0 Alcohol accidental poisoning
Persons with Potential Health Hazards Related to Personal and Family History
(V11) Personal History of mental disorder
V11.3 Alcoholism

Persons without Reported Diagnosis Encountered During Examination and Investigation of Individuals and Populations

(V79) Special screening for mental disorders and developmental handicaps

V79.1 Alcoholism special screening

Illicit Drugs

Organic Psychotic Conditions

(292) Drug Psychoses

292.0 Drug withdrawal syndrome
292.1 Paranoid and/or hallucinatory states induced by drugs
292.11 Drug induced organic delusional syndrome
292.12 Drug induced hallucinosis
292.2 Pathological drug intoxication
292.8 Other specified drug induced mental disorders
292.81 Drug induced delirium
292.82 Drug induced dementia
292.83 Drug induced amnestic syndrome
292.84 Drug induced organic affective syndrome
292.89 Other drug induced psychosis
292.9 Unspecified drug induced mental disorder

Neurotic Disorders, Personality Disorders, and Other Nonpsychotic Mental Disorders

(304) Drug dependence

304.0 Opioid type dependence
304.1 Barbiturate and similarly acting sedative or hypnotic dependence
304.2 Cocaine dependence
304.3 Cannabis dependence
304.4 Amphetamine and other psychostimulant dependence
304.5 Hallucinogen dependence
304.6 Other specified drug dependence
304.7 Combinations of opioid type drug with any other
304.8 Combinations of drug dependence excluding opioid type drug
304.9 Unspecified drug dependence

(305) Nondependent abuse of drugs

305.2 Cannabis abuse
305.3 Hallucinogen abuse
305.4 Barbiturate and similarly acting sedative or hypnotic abuse
305.5 Opioid abuse
305.6 Cocaine abuse
305.7 Amphetamine or related acting sympathomimetic abuse
305.8 Antidepressant type abuse
305.9 Other, mixed, or unspecified drug abuse

Disorders of the Peripheral Nervous System

(357) Inflammatory and toxic neuropathy

357.6 Polyneuropathy due to drugs

Poisoning by Drugs, medicinal and Biological Substances
(965) Poisoning by analgesics, antipyretics, and antirheumatics
965.0 Poisoning by Opiates and related narcotics
965.00 Poisoning by opium
965.01 Poisoning by heroin
965.02 Poisoning by methadone
Accidental Poisoning by Drugs, medicinal Substances, and Biologicals
(E850) Accidental Poisoning by analgesics, antipyretics, and antiheumatics
E850.0 Heroin
E850.1 Methadone
E850.2 Other opiates and related narcotics
E850.3 Salicylates
Drugs, Medicinal and Biological Substances Causing Adverse Effects in Therapeutic Use
(E935) Analgesics, antipyretics, and antirheumatics
E935.0 Heroin affecting blood constituents
E935.1 Methadone affecting blood constituents
E935.2 Other opiates an related narcotics affecting blood constituents
E935.3 Salicylates

Tobacco
Neurotic Disorders, Personality Disorders, and Other Nonpsychotic Mental Disorders
(305) Nondependent Abuse of Drugs
305.1 Tobacco use disorder
Accidental Poisoning by Other Solid and Liquid Substances, Gases and Vapors
(E869) Accidental Poisoning by other gases and vapors
E869.4 Second hand tobacco smoke

Prescription and Uncontrolled Drugs – Abuseable Psychoactive Drugs
Poisoning by drugs, medicinal and biological substances
(965) Opiates and related narcotics
965.1 Salicylates
965.4 Aromatic analgesics, not elsewhere classified
965.5 Pyrazole derivatives
965.6 Antirheumatics
965.7 Other non-narcotic analgesics
965.8 Other specified analgesics and antipyretics
965.9 Unspecified analgesic and antipyretic
(966) Poisoning by anticonvulsants and anti-Parkinsonism drugs
966.0 Oxazolidine derivatives
966.1 Hydantoin derivatives
966.2 Succinimides
966.3 Other and unspecified anticonvulsants
(967) Poisoning by sedatives and hypnotics
967.0 Barbiturates
967.1 Chloral hydrate group
967.2 Paraldehyde

967.3 Bromine compounds
967.4 Methaqualone compounds
967.5 Glutethimide group
967.6 Mixed sedatives, not elsewhere classified
967.8 Other sedatives and hypnotics
967.9 Unspecified sedative or hypnotic
(968) Poisoning by other central nervous system depressants and anesthetics
968.0 Central nervous system muscle-tone depressants
968.1 Halothane
968.2 Other gaseous anesthetics
968.3 Intravenous anesthetics
968.4 Other and unspecified general anesthetics
968.5 Surface and infiltration anesthetics
968.6 Peripheral nerve and plexus-blocking anesthetics
968.7 Spinal anesthetics
968.9 Other and unspecified local anesthetics
(969) Poisoning by psychotropic agents
969.0 Antidepressants
969.1 Phenothiazine-based tranquilizers
969.2 Butyrophenone-based tranquilizers
969.3 Other antipsychotics, neuroleptics, and major tranquilizers
969.4 Benzodiazepine-based tranquilizers
969.5 Other tranquilizers
969.6 Psychodysleptics
969.7 Psychostimulants
969.8 Other specified psychotropic agents
969.9 Unspecified psychotropic agent
Accidental Poisoning by Drugs, Medicinal Substances, and Biologicals
(E850) Accidental Poisoning by analgesics, antipyretics, and antiheumatics
E850.4 Aromatic analgesics, not elsewhere classified
E850.5 Pyrazole derivatives
E850.6 Antirheumatics
E850.7 Other non-narcotic analgesics
E850.8 Other specified analgesics and antipyretics
E850.9 Unspecified analgesic or antipyretic
E851 Accidental poisoning by barbiturates
(E852) Accidental poisoning by other sedatives and hypnotics
E852.0 Cloral hydrate group
E852.1 Paraldehyde
E852.2 Bromine compounds
E852.3 Methaqualone compounds
E852.4 Glutethimide group
E852.5 Mixed sedatives, not elsewhere classified
E852.8 Other specified sedatives and hypnotics
E852.9 Unspecified sedative or hypnotic
(E853) Accidental poisoning by tranquilizers

E853.0 Phenothiazine-based tranquilizers
E853.1 Butyrophenone-based tranquilizers
E853.2 Benzodiazepine-based tranquilizers
E853.3 Other specified tranquilizers
E853.4 Unspecified tranquilizer
(E854) Accidental poisoning by other psychotropic agents
E854.0 Antidepressants
E854.1 Psychodysleptics
E854.2 Psychostimulants
E854.3 Central nervous system stimulants
E854.8 Other psychotropic agents
(E855) Accidental poisoning by other drugs acting on central and autonomic nervous system
E855.0 Anticonvulsant and anti-Parkinsonism drugs
E855.1 Other central nervous system depressants
E855.2 Local anesthetics
E855.3 Parasympathomimetics
E855.4 Parasympatholytics
E855.5 Sympathomimetics
E855.6 Sympatholytics
E855.8 Other specified drugs acting on central and autonomic nervous systems
E855.9 Unspecified drug acting on central and autonomic nervous systems
E856 Accidental poisoning by antibiotics
E857 Accidental poisoning by other anti-infectives
Drugs, medicinal and biological substances causing adverse effects in therapeutic use
(E935) Analgesics, antipyretics, and antirheumatics
E935.4 Aromatic analgesics, not elsewhere classified
E935.5 Pyrazole derivatives
E935.6 Antirheumatics
E935.7 Other non narcotic analgesics
E935.8 Other specified analgesics and antipyretics
E935.9 Unspecified analgesic and antipyretic
(E936) Anticonvulsants an d antiParkinsonism drugs
E936.0 Oxazolidine derivatives
E936.1 Hydantoin derivatives
E936.2 Succinimides
E936.3 Other and unspecified anticonvulsants
E936.4 AntiParkinsonism drugs
(E937) Sedatives and hypnotics
E937.0 Barbiturates
E937.1 Chloral hydrate group
E937.2 Paraldehyde
E937.3 Bromine compounds
E937.4 Methaqualone compounds
E937.5 Glutethimide group
E937.6 Mixed sedatives, not elsewhere classified
E937.8 Other sedatives and hypnotics

E937.9 Unspecified
(E938) Other central nervous system depressants ad anesthetics
E938.0 Central nervous system muscle tone depressants
E938.1 Halothane
E938.2 Other gaseous anesthetics
E938.3 Intravenous anesthetics
E938.4 Other and unspecified general anesthetics
E938.5 Surface and infiltration anesthetics
E938.6 Peripheral nerve and plexus blocking anesthetics
E938.7 Spinal anesthetics
E938.9 Other and unspecified local anesthetics
(E939) Psychotropic agents
E939.0 Antidepressants
E939.1 Phenothiazine based tranquilizers
E939.2 Butyrophenone based tranquilizers
E939.3 Other antipsychotics, neuroleptics, and major tranquilizers
E939.4 Benzodiazepine based tranquilizers
E939.5 Other tranquilizers
E939.6 Psychodysleptics
E939.7 Psychostimulants
E939.8 Other psychotropic agents
E939.9 Unspecified psychotropic agent
(E947) Other and unspecified drugs and medicinal substances
E947.0 Dietetics
E947.1 Lipotropic drugs
E947.2 Antidotes and chelating agents, not elsewhere classified
E947.3 Alcohol deterrents
E947.4 Pharmaceutical excipients
E947.8 Other drugs and medicinal substances
E947.9 Unspecified drug or medicinal substance
Suicide and Seif inflicted injury
(E950) Suicide and self inflicted poisoning by solid or liquid substances
E950.0 Analgesics, antipyretics, and antirheumatics
E950.1 Barbiturates
E950.2 Other sedatives and hypnotics
E950.3 Tranquilizers and other psychotropic agents
E950.4 Other specified drugs and medicinal substances
E950.5 Unspecified drug or medicinal substances

Note: 'E' codes refer to external causes of injury and poisoning
'V' codes refer to factors influencing health status and contact with health services

Exhibit 2
ICD-9 Codes and PARs for Alcohol-Related Diagnoses
Less Than 100% Attributable to Substance Abuse

		PAR Value (%) Female and Male
011-012	Pulmonary and other respiratory tuberculosis	25
140-149	Malignant neoplasm of lip, oral cavity and pharynx	40
150	Malignant neoplasm of esophagus	75
151	Malignant neoplasm of stomach	20
155	Malignant neoplasm of liver and intrahepatic bile ducts	15
161	Malignant neoplasm of larynx	40
250	Diabetes mellitus	5
401	Essential hypertension	8
430-438	Cerebrovascular disease	7
480-487	Pneumonia and influenza	5
530-537	Diseases of esophagus, stomach and duodenum	10
571.4	Chronic hepatitis	50
571.5	Cirrhosis of liver without mention of alcohol	50
571.8	Other chronic non-alcoholic liver disease	50
571.9	Unspecified chronic liver disease without mention of alcohol	50
572.3	Portal hypertension	50
577.0	Acute pancreatitis	42
577.1	Chronic pancreatitis	60
E810-E825	Motor vehicle accidents and non-traffic accidents	42
E826-E829	Pedal cycle and other road vehicle accidents	20
E830-E838	Water transport accidents	20
E880-E888	Accidental falls	35
E890-E899	Accidents caused by fire and flames	45
E910	Accidental drowning and submersion	38
E951-E959	Suicide and self-inflicted injury	28

ICD-9 Codes and PARs for Tobacco-Related Diagnoses Less Than 100% Attributable to Substance Abuse

		PAR Value (%) Female
010-012	Respiratory Tuberculosis	28
140-149	Malignant neoplasm of lip, oral cavity and pharynx	63
150	Malignant neoplasm of esophagus	72
157	Malignant neoplasm of pancreas	38
161	Malignant neoplasm of larynx	89
162	Neoplasm of trachea, lung, bronchus	78
180	Neoplasm of cervix uteri	39
188	Neoplasm of urinary bladder	40
189	Neoplasm: of kidney, other urinary	13
390-398	Rheumatic heart disease	16
401-405	Hypertension	16
410-414	Ischemic heart disease	19
415-417	Pulmonary heart disease	16
420-429	Cardiac arrest, other heart disease	16
430-438	Cerebrovascular disease	8
440	Atherosclerosis	33
441	Aortic aneurysm	33
442-448	Other arterial disease	33
480-487	Pneumonia, influenza	28
490-492	Bronchitis, emphysema	82
493	Asthma	28
496	Chronic airway obstruction	82

ICD-9 Codes and PARs for Prescription Drug-Related Diagnoses Less Than 100% Attributable to Substance Abuse

		PAR Value (%) Female and Male
820.8	Hip fractures, closed	14
820.9	Hip fractures, open	14

Exhibit 3
ICD-9 Codes for Myocardial Infarction

410	**Acute Myocardial Infarction**
410.00	of anterolateral wall (episode of care unspecified)
410.01	of anterolateral wall (initial episode of care)
410.02	of anterolateral wall (subsequent episode of care)
410.10	of other anterior wall (episode of care unspecified)
410.11	of other anterior wall (initial episode of care)
410.12	of other anterior wall (subsequent episode of care)
410.20	of inferolateral wall (episode of care unspecified)
410.21	of inferolateral wall (initial episode of care)
410.22	of inferolateral wall (subsequent episode of care)
410.30	of inferoposterior wall (episode of care unspecified)
410.31	of inferoposterior wall (initial episode of care)
410.32	of inferoposterior wall (subsequent episode of care)
410.40	of other inferior wall (episode of care unspecified)
410.41	of other inferior wall (initial episode of care)
410.42	of other inferior wall (subsequent episode of care)
410.50	of other lateral wall (episode of care unspecified)
410.51	of other lateral wall (initial episode of care)
410.52	of other lateral wall (subsequent episode of care)
410.60	True posterior wall infarction (episode of care unspecified)
410.61	True posterior wall infarction (initial episode of care)
410.62	True posterior wall infarction (subsequent episode of care)
410.70	subendocardial infarction (episode of care unspecified)
410.71	subendocardial infarction (initial episode of care)
410.72	subendocardial infarction (subsequent episode of care)
410.80	of other specified sites (episode of care unspecified)
410.81	of other specified sites (initial episode of care)
410.82	of other specified sites (subsequent episode of care)
410.90	unspecified site (episode of care unspecified)
410.91	unspecified site (initial episode of care)
410.92	unspecified site (subsequent episode of care)

APPENDIX F

Three Screening Tools

I. Michigan Alcoholism Screening Test – Geriatric Version (MAST-G)

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			Yes	No
1.	After drinking have you ever noticed an increase in your heart rate or beating in your chest?	1.	___	___
2.	When talking with others, do you ever underestimate how much you actually drink?	2.	___	___
3.	Does alcohol make you sleepy so that you often fall asleep in your chair?	3.	___	___
4.	After a few drinks, have you sometimes not eaten or been able to skip a meal because you didn't feel hungry?	4.	___	___
5.	Does having a few drinks help decrease your shakiness or tremors?	5.	___	___
6.	Does alcohol sometimes make it hard for you to remember parts of the day or night?	6.	___	___
7.	Do you have rules for yourself that you won't drink before a certain time of day?	7.	___	___
8.	Have you lost interest in hobbies or activities you used to enjoy?	8.	___	___
9.	When you wake up in the morning, do you ever have trouble remembering part of the night before?	9.	___	___
10.	Does having a drink help you sleep?	10.	___	___
11.	Do you hide your alcohol bottles from family members?	11.	___	___
12.	After a social gethering, have you ever felt embarrassed because you drank too much?	12.	___	___
13.	Have you ever been concerned that drinking might be harmful to your health?	13.	___	___
14.	Do you like to end an evening with a night cap?	14.	___	___
15.	Did you find your drinking increased after someone close to you died?	15.	___	___
16.	In general, would you prefer to have a few drinks at home rather than go out to social events?	16.	___	___
17.	Are you drinking more now than in the past?	17.	___	___
18.	Do you usually take a drink to relax or calm your nerves?	18.	___	___
19.	Do you drink to take your mind off your problems?	19.	___	___
20.	Have you ever increased your drinking after experiencing a loss in your life?	20.	___	___
21.	Do you sometimes drive when you have had too much to drink?	21.	___	___
22.	Has a doctor or nurse ever said they were worried or concerned about your drinking?	22.	___	___
23.	Have you ever made rules to manage your drinking?	23.	___	___
24.	When you feel lonely does having a drink help?	24.	___	___

Scoring: 5 or more "yes" responses indicative of alcohol problem. For further information, contact Frederic Blow, Ph.D., at University of Michigan Alcohol Research Center, 400 E. Eisenhower Pkwy, Suite A., Ann Arbor, MI 48104, 313/998-7952.

II. T-ACE*

- How many drinks does it take to make you feel high? (**T**olerance)
- Have people ever **A**nnoyed you by criticizing your drinking?
- Have you ever felt you ought to **C**ut down on your drinking?
- Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover? (**E**ye-opener)

III. TWEAK*

- How many drinks does it take before you begin to feel the effects of alcohol? (**T**olerance)
- How many drinks does it take before the alcohol makes you fall asleep or pass out? Or, if you never drink until you pass out, what is the largest number of drinks you have? (**T**olerance)
- Have your friends or relatives **W**orried or complained about your drinking in the past year?
- Do you sometimes take a drink in the morning when you first get up? (**E**ye-opener)
- Are there times when you drink and afterwards you can't remember what you said or did? (**A**mnesia)
- Do you sometimes feel the need to **C**ut down on your drinking?

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* Chang, G., et al (1997). Women and alcohol abuse in primary care. *American Journal on Addictions*, 6(3), 183-192.